

**IT IS THE VENDOR'S RESPONSIBILITY TO CHECK
FOR ADDENDUMS PRIOR TO SUBMITTING PROPOSALS**

REQUEST FOR PROPOSALS SPECIFICATION NO. 05-167

The City of Lincoln, Nebraska intends to enter into a contract and invites you to submit a sealed proposal for:

35-FOOT TRANSIT BUSES 15 EACH

Sealed proposals will be received by the City of Lincoln, Nebraska on or before **12:00 noon Wednesday, August 17, 2005** in the office of the Purchasing Agent, Suite 200, K Street Complex, Southwest Wing, 440 South 8th Street, Lincoln, Nebraska 68508. Proposals will be publicly opened at the K Street Complex, reading only the names of the firms submitting proposals.

Specifications can be downloaded at www.lincoln.ne.gov Keyword - Bid or they may be obtained from our office by calling 402-441-7410.

A pre-proposal conference will be held Friday, July 15, 2005 at 10:00 a.m. at StarTran, 710 "J" St., Lincoln, Nebraska. All proposers are encouraged to attend.

Proposers should take caution if U.S. mail or mail delivery services are used for the submission of proposals. Mailing should be made in sufficient time for proposals to arrive in the Purchasing Division, prior to the time and date specified above. Late bids will not be considered. **Fax or e-mail bids are not acceptable. Bid response must be in a sealed envelope.**

PROPOSER'S CHECK LIST

Each proposal submitted shall include the items listed below. The following list is for convenience only. Proposers are entirely responsible for the submission of a properly executed proposal, and should carefully read the entire specification package in order to be fully aware of all requirements. Failure to comply in all respects may result in rejection of a proposal as non-responsive.

YES	NO	ITEM
		Exceptions Listing – By Proposer
		Conflict of Interest Statement – By Proposer
		Proposers Capability and Experience Statements, Including References – By Proposer
		Proposers Organization – By Proposer
		Milestone Tracking Chart – By Proposer
		Acknowledgment of Receipt of Addenda – By Proposer
		Price Proposal Form – Exhibit A
		Location of Parts and Technical Services Form – Exhibit B
		Bus Description Form – Exhibit C
		Sample Contract for the Purchase of Vehicles – Exhibit D
		Buy America Worksheet – Exhibit E
		Buy America Certification – Exhibit F
		FTA Bus Testing Certification – Exhibit G
		Disclosure of Lobbying Activities Worksheet – Exhibit H
		Disclosure of Lobbying Activities Certification – Exhibit I
		Debarment Certification – Exhibit J
		Motor Vehicle Safety and Pollution Certification – Exhibit K
		Disadvantaged Business Enterprises TMV Certification – Exhibit L
		Sample Proposal Guarantee Bond – Exhibit M
		Fair Employment Practices Certification – Exhibit N
		Drug Free Workplace Certification – Exhibit O
		Non Collusion Certification – Exhibit P

Definition of Terms

Whenever herein or in the contract document the following terms, or pronouns in place of them, or abbreviations, are used, the intent and meaning shall be interpreted as follows:

The City of Lincoln. Buyer

Approved Equal. A phrase used to indicate THE CITY OF LINCOLN's approval of a proposed product/service/condition similar or superior in function, purpose, design and/or performance to that originally specified, as an acceptable alternate for proposals.

Authorized Signature. Signature of that person who is executing this contract on behalf of the Bidder/Contractor and who is authorized to bind the Bidder/Contractor.

Bid and Proposal. Used synonymously throughout this document.

Bidder and Proposer. Used synonymously throughout this document.

Contracting Officer. That person designated by THE CITY OF LINCOLN to enter into and administer this contract and make determinations and findings with regard to the contract on behalf of THE CITY OF LINCOLN.

Contractor. The successful proposer to whom a contract is awarded.

Defect. Patent or latent malfunction or failure in manufacture or design of any component or subsystem that causes a unit to cease operating or causes it to operate in a degraded mode.

Deliverables. The goods and services to be provided by the Successful Proposer to THE CITY OF LINCOLN, following award of contract under this solicitation.

FTA. Federal Transit Administration (U.S. Department of Transportation).

GSA. (Federal) Government Services Administration.

Grant Recipient. Recipient of FTA-granted funds. THE CITY OF LINCOLN is a "grant recipient" of the FTA.

Notice to Proceed. The written notice sent by THE CITY OF LINCOLN notifying the Contractor to proceed with the scope of work specified in the Agreement.

Procuring Agency. The City of Lincoln.

Proposal, Contract and Award Form. Form provided by THE CITY OF LINCOLN, attached hereto for submission of the proposal, and, if such proposal is accepted, for the award of contract by THE CITY OF LINCOLN.

Related Defect. Damage inflicted on any component or subsystem as a direct result of a defect.

Request For Proposal (RFP). The complete assembly of related documents, whether attached or incorporated by reference, furnished by THE CITY OF LINCOLN for the purpose of soliciting proposals, including: the Request For Proposal; the Instructions To Proposers; Terms And Conditions; Specifications; "Proposal, Contract and Award" Form; Exhibits; Attachments; and Addenda, if any.

Specifications. The written description and statement of minimum required performance/features of the equipment and/or supplies to be provided by the proposer.

Successful Proposer. The proposer to whom THE CITY OF LINCOLN makes contract award.

Supplier. Used synonymously with "**vendor**" or "**seller**".

Unit. Used synonymously throughout this document to refer to the item being specified by THE CITY OF LINCOLN for purchase.

Work. Any and all labor, supervision, services, materials, machines, equipment, tools, supplies, and facilities called for by the contract and necessary to the completion thereof.

PART 1

Instructions To Proposers

1.1 INTRODUCTION

It is the intent of this Request for Proposal (RFP) to solicit competitive proposals for fifteen (15) 35-foot transit buses in low floor configurations from a single qualified supplier.

1.2 PERIOD OF OPERATION

The start date for the program/project will tentatively commence upon award of a contract pursuant to this RFP, with a scheduled completion date of December, 2006, contingent upon receipt of adequate funding.

1.3 THE CITY OF LINCOLN PROJECT MANAGER

Glenn Knust, Maintenance Superintendent, shall be responsible for the procurement process and shall monitor the successful Contractor's day-to-day performance of all necessary actions required for effective execution of contractual requirements.

Office: (402) 441-8317 Fax: (402) 441-7055

1.4 THE CITY OF LINCOLN CONTRACTING OFFICER

Vince Mejer, Purchasing Agent, shall serve as THE CITY OF LINCOLN's Contracting Officer for this contract. The Contracting Officer shall have THE CITY OF LINCOLN to administer or terminate a contract, execute Change orders, and make related determinations and findings, to the extent delegated by THE CITY OF LINCOLN, acting through its City Council and Transit Manager. The Contracting Officer shall be responsible for ensuring the Contractor's compliance with the terms of the contract, and safeguarding the best interests of The City of Lincoln.

Office: (402) 441-7410 Fax: (402) 441-6513

1.5 FUNDING

Financial support of this project is provided through financial assistance grants from the Federal Transit Administration (FTA) and THE CITY OF LINCOLN who are funding approximately 80 percent and 20 percent respectively. Any obligations of THE CITY OF LINCOLN are contingent upon receipt of adequate funding.

1.6 PAYMENT TO CONTRACTOR

a. Progress Payment Schedule

THE CITY OF LINCOLN will pay the full price of each bus upon final acceptance of the vehicle and receipt of an approved invoice.

b. Payment Terms

THE CITY OF LINCOLN will make payment to the Contractor within sixty (60) days from date of receipt by THE CITY OF LINCOLN of a properly documented and correct invoice from the Contractor and acceptance by THE CITY OF LINCOLN's Project Manager.

c. Invoicing

Contractor's invoices must include THE CITY OF LINCOLN's Purchase Order number, be billed and payable in U.S. dollars, and be addressed to the Project Manager.

d. Maximum Payment

THE CITY OF LINCOLN will pay a maximum of the total amount listed on the original purchase order to the Contractor for the deliverables to be provided under the Contract, unless otherwise amended via Change Order to the Contract.

1.7 SCHEDULED ACTIVITIES

To the extent achievable, the following tentative schedule shall govern the review, evaluation and award of the contract. THE CITY OF LINCOLN reserves the right to modify the dates below in accordance with its review process.

<u>Activity</u>	<u>Estimated Completion Date</u>
Availability of the RFP	June 23, 2005
Pre-Proposal Conference	July 15, 2005
Deadline for receipt of proposal	August 17, 2005
Review of Proposals by Evaluation Committee	August 26, 2005
Interviews/Discussions/Negotiations (tentative)	August 31, 2005
Receipt of Best and Final Offers (if requested)	September 14, 2005
Evaluation Committee's recommendation to the City Council for appropriate action	September 26, 2005
Contract Award	October 31, 2005
Notice to Proceed	November 17, 2005

1.8 VEHICLE AMOUNTS/TYPES

Successful Proposer will furnish THE CITY OF LINCOLN or assigned transit properties a minimum of fifteen (15) transit buses in accordance with specifications as contained in the Technical Specifications and the certifications contained in Part 6 of this RFP. Vendor shall provide all labor, vehicles, equipment, insurance, licenses, etc. at no additional cost to THE CITY OF LINCOLN.

Such buses shall be provided pursuant to all specifications as stated herein and as contained in the Technical Specifications, the General Provisions and Federal Requirements and Information and Instructions to Proposers in this RFP. Interested proposers shall complete Exhibit C, "Bus Description" as a demonstration of compliance with the Technical Specifications listed.

1.9 VEHICLE DELIVERY

Delivery of the vehicles is to be completed within Proposers specified delivery schedule upon receipt and acceptance of the Proposer's offer by THE CITY OF LINCOLN. If the delivery is delayed because of strike, injunctions, governmental controls, or by reason of any cause or circumstances beyond the control of the manufacturer, supplier or contractor, the time of completion of delivery may be extended upon written request for a time extension from the Proposer. The request for extension must include detailed justification for the length of the time extension.

Hours of delivery shall be 9:00 a.m. through 4:00 p.m., Monday – Friday only.

1.10 VEHICLE SERVICE

Prior to delivery, each vehicle shall be completely serviced by the Contractor. Service shall include not less than the following: lubrication, wash, and other checks and adjustments required for proper complete servicing of a new vehicle. Each vehicle shall be ready for placement in service upon delivery and acceptance.

1.11 CONDITION OF EQUIPMENT PROPOSED

This equipment shall be new and unused, of current production model, with the latest design features. The unit shall be delivered fully operational and ready for field use with all necessary maintenance equipment and accessories.

This equipment shall, in all respects, be equipped to operate legally on State highways, night and day, and shall, in all respects, conform to State and Federal regulations pertaining to the equipment herein described. All parts of this vehicle shall conform with the provisions of the State Vehicle Code, Federal Motor Vehicle Safety Standards, the , Motor Carrier Safety Regulations and requirements under the Americans with Disabilities Act (ADA) Final Guidelines for Transportation Vehicles, 49CFR, Part 38, Subpart B in effect as of September 6, 1991 or as modified subsequently.

An adequate stock of repair parts and service facilities shall be readily available. This location is to be indicated on the enclosed location of parts and technical services form in Exhibit B.

Proposal shall contain a breakdown of costs of each bus as follows:

- a. delivery of f.o.b., Lincoln, NE, USA

1.12 DAMAGE BY CONTRACTOR.

All loss or damage arising from any unforeseen obstruction or difficulties, either natural or artificial, which may be encountered in the prosecution of the work, or the furnishing of the supplies, materials or equipment, or from any action of the elements prior to the final acceptance of the work, or of the supplies, materials, or equipment, or from any act or omission not authorized by these specifications on the part of the Contractor or any agent or person employed on the part of the Contractor or any agent or person employed by that person(s), shall be sustained by the Contractor.

1.13 F.O.B. POINT.

F.O.B. Destination to:

City of Lincoln - StarTran
710 "J" Street
Lincoln NE 68508

1.14 SUMMARY OF ITEMS TO BE PROVIDED UPON DELIVERY:

The following items must be furnished by the successful Proposer upon delivery of each vehicle:

- a. all warranty verification vouchers, certificates or coupons
- b. operator's manual(s) for vehicle and all add-on equipment

- c. drawings showing wiring of auxiliary circuits, and/or modifications of standard vehicle wiring which would not be included in the standard vehicle maintenance manual
- d. completely filled fuel tank(s)
- e. complete vehicle maintenance and parts manuals
- f. assurance of compliance with manufacturer's pre-delivery service
- g. any maintenance and inspection schedules for the basic vehicle and its subsystems and any add-on equipment
- h. ALL required documents, completely executed by the manufacturer/dealer, and ready for submission to the Department of Motor Vehicles

1.15 EXCEPTIONS:

The Proposer is to provide a proposal that in all ways meets the specifications. Proposals may be submitted with exceptions to the specifications which must be denoted separately and must include an explanation of the necessity for each. Exceptions may be cause for rejection of proposal. THE CITY OF LINCOLN reserves the right to negotiate modification to any exceptions with any Proposers within the competitive range. Proposals with accepted exceptions shall be evaluated in accordance with the Evaluation Criteria herein, which may result in a lower score.

1.16 CHANGE ORDERS:

THE CITY OF LINCOLN at any time by written order and without notice to the sureties may make changes within the general scope of any Contract awarded as a result of this RFP. If any such changes cause an increase or decrease in the cost of or the time required for performance under the Contract, an equitable adjustment shall be made by written modification to the Contract. Any claim by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of receipt by the Contractor of the notification of change.

1.17 REQUEST FOR PROPOSAL DEADLINE

The proposal, and all attachments, must be received in THE CITY OF LINCOLN Purchasing Office by 12:00 p.m. on August 17, 2005. The proposal must be in a sealed envelope, box, or appropriate package with the name and address of the Proposer, the project title: "THE CITY OF LINCOLN Vehicle Purchase", and closing date clearly marked on the outside. For the purposes of this proposal, the time specified will be as defined by the telephone console clock at the reception desk in the main lobby of THE CITY OF LINCOLN Purchasing building, 440 S 8th St, Ste 200, Lincoln, NE 68508. Any proposal received after the above deadline may not be opened and considered for award.

Proposal must be mailed or delivered to:

THE CITY OF LINCOLN
440 S 8th St, Ste 200
Lincoln NE 68508
Attention: Purchasing Manager

Without law or policy to the contrary, if the Proposer took reasonable steps to submit the proposal in due time, and failure of the proposal to be on hand at the time of closing was not the result of negligence or other fault of the Proposer, but was the result of negligence by THE CITY OF LINCOLN, THE CITY OF LINCOLN reserves the right to accept such proposal.

1.18 PROPOSERS CONFERENCE

A Pre-Proposal Conference will be held to discuss all relevant issues associated with the Request for Proposal. While attendance is not required, all potential Proposers are strongly encouraged to attend.

Please submit, in writing, any questions about the Request for Proposal that you would like answered at the conference to THE CITY OF LINCOLN as referenced above or fax your questions to (402) 441-6513 prior to the conference. This will allow for a more thorough response.

The conference may be recorded and answers may be provided in writing by addendum following the conference. Please contact THE CITY OF LINCOLN at (402) 441-7410 for confirmation of your attendance. Only written addenda will be binding. Oral answers at the conference will not be binding on THE CITY OF LINCOLN.

Time and location will be as follows:

Location: THE CITY OF LINCOLN - StarTran
710 "J" Street
Lincoln, NE 68508

Date: July 15, 2005

Time: 10:00 a.m.

1.19 INTERPRETATION OF REQUEST FOR PROPOSAL

The Proposer must carefully examine the specifications, terms and conditions expressed in the Request for Proposal and become fully informed as to the requirements set forth therein.

If anyone planning to submit a proposal finds discrepancies or omissions in the proposal, or has any doubts as to the true meaning, they may request in writing, an interpretation or correction thereof, by July 18, 2005 at 2:00pm CST. (No further requests for clarification or objections to the proposal will be accepted or considered after this date.)

Any change in the Request for Proposal will be made only by written addendum, duly issued by THE CITY OF LINCOLN to each firm in receipt of the Request for Proposal. THE CITY OF LINCOLN will not be responsible for any other explanations or interpretations.

All inquiries shall be directed to the designated City of Lincoln staff person. Contact with any other City of Lincoln personnel by the Proposer is prohibited. Failure to comply with this request may be considered cause for rejection of your bid.

1.20 FALSE OR MISLEADING STATEMENTS

Proposals which contain false or misleading statements, or which provide references which do not support an attribute or condition claimed by the Proposer, may be rejected. If, in the opinion of THE CITY OF LINCOLN, such information was intended to mislead THE CITY OF LINCOLN in its evaluation of the proposal, and the attribute, condition or capability is a requirement of this proposal, it will be the basis for rejection of the proposal.

1.21 WITHDRAWAL OR REVISION OF PROPOSALS

A proposal which is submitted prior to the deadline may be withdrawn or revised anytime prior to, but not after, the deadline for receipt of proposals, provided that the request for withdrawal or revision is in writing and executed by the Proposer's duly authorized representative. The request for withdrawal or revision for the proposal must be filed with THE CITY OF LINCOLN, before the deadline for receipt of proposals. The withdrawal of a proposal shall not prejudice the right of a Proposer to submit a new proposal, provided the Proposer can submit the new proposal by the deadline stated herein. After the deadline for receipt of proposals, no Proposer may withdraw its proposal for a minimum of sixty (60) days.

1.22 SUBCONTRACTING

Any Proposer using a Subcontractor(s) must clearly explain the use of the Subcontractor(s) and list the name(s) of the Subcontractor(s) providing work under this proposal. The selected Proposer will be fully responsible for all work performed under this proposal and will be considered as the Prime Contractor. Any Subcontracting, or other legal arrangements made by the Proposer are the sole responsibility of the Proposer. Any contract that is entered into between the selected Proposer and the Subcontractor(s) shall contain all required contract provisions as stated in the RFP, and shall in no respect obligate THE CITY OF LINCOLN to the subcontracting party.

1.23 PROPOSAL AS CONTRACT

Each proposal shall be submitted with the understanding that acceptance in writing by THE CITY OF LINCOLN of the offer to furnish the equipment or services described therein shall constitute a contract between the successful proposer and THE CITY OF LINCOLN, which shall bind the proposer to furnish and deliver the equipment or service at the proposed price and in accordance with the specifications, terms and conditions, and other requirements detailed in the RFP or subsequently added or made a part thereof.

1.24 GENERAL TERMS AND CONDITIONS – CONTRACT AGREEMENT

The successful Proposer will be required to enter into a negotiated and final contract with THE CITY OF LINCOLN, specifically identifying the scope of work as well as THE CITY OF LINCOLN's general terms and conditions. All Proposers shall familiarize themselves completely with the contents and requirements of the contract. A sample contract is enclosed as Exhibit D.

PART 2

Procurement Process

2.1 METHOD OF PROCUREMENT: COMPETITIVE NEGOTIATION

- A. Procurement will be made on a "competitive negotiated" basis.
The Competitive Negotiation method of procurement is an acknowledgment that, in addition to price and responsiveness to technical specifications, there are other factors which should be considered in the procurement process in order to determine which offer is in the best interest of THE CITY OF LINCOLN and allows the most efficient and economical use of public funds. It should also be understood that the *competitive negotiation* process is designed to ensure, to the maximum extent possible, that award will be made on a competitive basis.
- B. The contract will be awarded to the proposer whose proposal will be the most advantageous to THE CITY OF LINCOLN in terms of all evaluation criteria stated elsewhere in the RFP.
- C. Proposals will not be publicly opened and are strictly confidential to THE CITY OF LINCOLN. Detailed procedures for proposal evaluations and the steps leading to award follow.
- D. The basic steps in the competitive negotiation process are as follows:
 - 1. THE CITY OF LINCOLN determines the relative importance of all the evaluation factors pertinent to the RFP and lists them in order of priority. This has been done and is reflected as the criteria provided in Part 4 of this RFP.
 - 2. THE CITY OF LINCOLN issues a Request For Proposals (RFP) containing specifications that describe the actual minimum needs and advising prospective offerors of the criteria upon which the proposals will be evaluated.
 - 3. By the date specified in the RFP, qualified offerors submit sealed proposals as outlined in Part 3.
 - 4. THE CITY OF LINCOLN reviews the Proposals to determine proposal compliance.
 - 5. THE CITY OF LINCOLN evaluates all compliant Proposals in accordance with the pre-established evaluation criteria.
 - 6. THE CITY OF LINCOLN will determine the "Competitive Range". The Competitive Range includes all proposals which have a reasonable chance of being selected for award, based upon a preliminary screening against the previously established evaluation criteria. When there is a doubt as to whether a proposal is within the competitive range, that doubt shall be resolved by the proposal's inclusion. Where the bid price is below the competitive range and clearly demonstrates a lack of understanding on the part of the bidder, the City of Lincoln may disqualify this bidder from further consideration.
 - 7. THE CITY OF LINCOLN determines whether or not to carry out discussions with those offerors whose proposals are within the competitive range or to recommend an award of the contract without further discussion.

8. THE CITY OF LINCOLN may determine that it is in their best interest to conduct individual interviews with bidders determined to be within a competitive price, technical management and experience range to verify any unclear areas, discuss any bid options and, through questions and answers, assure that the contractor has a clear understanding of THE CITY OF LINCOLN requirements and expectations. After the presentations THE CITY OF LINCOLN may request a best and final or proceed into negotiations with the highest ranked bidder, based on THE CITY OF LINCOLN developed, evaluation criteria. Furthermore, THE CITY OF LINCOLN may elect to award a contract without further discussions or negotiations if THE CITY OF LINCOLN determines that the best technically acceptable proposal has been received and that acceptance of this initial proposal would result in a fair and reasonable price.
9. If an award is to be made pending further discussion or negotiation, all offerors whose proposals are within the competitive range will be formally notified in writing, of THE CITY OF LINCOLN's intentions to hold discussions with them and the required steps leading to "Best And Final Offers" (BAFO's). A meeting will be held with each such offeror to discuss their proposed solutions to amend requirements. THE CITY OF LINCOLN reserves the right to amend requirements after discussions to clarify any requirement issues. Bidders will then be requested to submit any final changes to their price and technical proposal. Offerors may then modify their proposals, accordingly, and may submit their BAFO after all meetings and discussions have been completed. No evaluation and/or price comparisons are allowed between proposals. Discussions with bidders will not include disclosure of the strengths and weaknesses of competing proposals.
10. The **sealed** BAFO's are submitted by a common closing time, of which all offerors within the competitive range will be formally notified.
11. THE CITY OF LINCOLN will evaluate final submittants and will either reject all bids or select the bid that offers the best compliance and benefits to THE CITY OF LINCOLN at a competitive cost.
12. The award recommendation by THE CITY OF LINCOLN selection committee requires the approval of THE CITY OF LINCOLN's City Council and DBE Liaison/EEOC Officer. The selected bidder will be notified only after Board approval.
13. All proposers will be advised in writing of THE CITY OF LINCOLN's final decision.
14. No contractor submittants shall be returned. THE CITY OF LINCOLN will not accept confidential, trade secret nor proprietary information. Where information has a copyright, by the bidder or his subcontractor the bidder shall provide THE CITY OF LINCOLN, in writing in the proposal with a statement by the owner of the copyright that the "submitted documents may be copied by THE CITY OF LINCOLN for the purpose of evaluating the submitted proposal."

PART 3

Instructions For Submission Of Proposal And Proposal Content Requirements

3.1 GENERAL INFORMATION

This section describes the required proposal format and content. The proposal should contain the requested information organized by the prescribed sections and subsections numbers and titles. Any information provided beyond that required in the proposal should be contained in a section entitled "Optional Exhibits and Attachments".

Each Proposer shall submit a complete proposal, along with requested copies, providing all information requested and a complete description of the equipment delivery schedule and quality assurance program proposed. Failure to follow the prescribed format may result in rejection of the proposal.

Proposals must be complete in all respects. A proposal may be rejected if it is conditional or incomplete, or if it contains any alteration of form or other irregularities of any kind not authorized by this RFP. A proposal may be rejected if any such defect or irregularity constitutes a material deviation from the proposal requirements. The proposal must contain all costs required by the proposal.

Proposals must be clearly marked as stated herein and must be received by the date and time specified. Proposals submitted under improperly marked covers might be rejected. If discrepancies are found between two or more copies of the proposal, the proposal may be rejected. However, if not so rejected, the "original" copy will provide the basis for resolving such discrepancies.

The proposal must be typed. Every part of the proposal must be legible and of sufficient print clarity to allow copying of the document. Errors may be crossed out and corrections printed in ink or typed adjacent, and must be initialed in ink by the person signing the proposal.

Special bindings, colored displays, etc., are not necessary. A single 3-ring binder divided into sections by labeled tab index sheets is sufficient. Attachments that are not included in the binder should be clearly labeled according to the sections and titles provided therein. The proposal should be as clear, complete and consistent with the proposal content requirements as possible.

3.2 NUMBER OF COPIES TO BE SUBMITTED

Please submit one (1) original proposal and five (5) copies of each proposal.

3.3 PROPOSAL FORMAT

The proposal must be developed on the forms provided in this package, and must follow the proposal content requirements in the order in which they appear in the proposal. Proposals that do not conform to this format may not be considered for evaluation. Proposals must be typewritten and submitted on standard 8-1/2"x11" paper. Each page must be clearly and consecutively numbered. All proposals must be submitted on the name of the legal entity or authorized agency. If the proposal is made by a sole owner, it shall be signed with his/her full name and his/her address shall be given. If the proposal is made by a partnership, it shall be signed with the partnership name by a member of the firm who shall also sign his/her own name and the name and address of each member shall be given. If the Proposer is a corporation, the proposal shall be signed by two corporate officers consisting of one signature from each of the two (2) following groups of corporate officials: (1) the chair of the board, president or vice president; and (2) the secretary, assistant secretary, chief financial officer, assistant treasurer or by a person authorized by the corporation to execute written proposals on its behalf, and the corporate seal affixed thereto. If the corporate seal is not affixed to the proposal, or it is executed by a person other than an officer, or by only one officer, there must be attached to the proposal a certified copy of a resolution of the corporation authorizing such officer or person to execute written proposals for and on behalf of the corporation. If the proposal is made by a joint venture, it shall be signed on behalf of each participating company by officers or other individuals who have full and proper authority to do so. Proposals submitted in any other form will be considered non-responsive and will be rejected.

Upon approval by THE CITY OF LINCOLN City Council, a Contract will be prepared for the proposal, and will become legally binding upon the signature by THE CITY OF LINCOLN Transit Manager and the authorized official of the corporation or company.

The content and sequence of the proposal will be as follows:

- A. COVER LETTER. A maximum of a one (1) page cover letter and introduction including the Proposer's name and address, name, address, and telephone number of the person(s) who will be the contact person(s) and who will be authorized to represent the Proposer. The proposal must be signed by a duly authorized officer of a company or partnership, or, in the case of a corporation, by two officers as required in this proposal.
- B. TABLE OF CONTENTS. Proposer shall provide a Table of Contents listing proposal contents, exhibits, and supplemental information.
- C. EXCEPTIONS. All Proposers are hereby instructed to supply a detailed listing of all EXCEPTIONS they are proposing in order of occurrence by page number and section number. This list should include the listed specification and the proposed EXCEPTION and include technical data sufficient to make an Approved Equal finding.

This portion of the proposal will note any exceptions to the requirements and conditions taken by the Proposer. The Proposer's exceptions should give an explanation why the Proposer is taking exception to the requirements and any impacts to cost or other requirements. If exceptions are not noted, THE CITY OF LINCOLN will assume that the Proposer's proposal meets those requirements as specified herein.

- D. **CONFLICT OF INTEREST STATEMENT.** The Proposer awarded this proposal may become involved in situations where conflicts of interest could occur due to individual or organizational activities that occur within THE CITY OF LINCOLN service area. In this section, the Proposer should address the potential, if any, for conflicts of interest and show plans, if applicable, to address any potential conflict of interest. This section will be reviewed by THE CITY OF LINCOLN Counsel for conflict of interest as part of the review process.
- E. **PROPOSER'S CAPABILITY AND EXPERIENCE.** Provide a concise statement covering the history of your company under current and any prior names (include number of years in business under each name), your major programs/projects or activities both in general and programs/projects similar to the subject of the proposal, the populations you have served, the relationship of this program/project to your corporate purpose, and why you feel that your company is best suited to fulfill the requirements of the proposal.

This section should include:

1. A brief description listing experience that your company has had in providing similar service that demonstrates your company's ability to provide the service described in your proposal. Provide a list of at least five (5) customer references, include the firm's name, the name, title, and telephone number of a contact person; the dollar amount of the contract; and the dates that these programs/projects were completed. Provide sample material of your company's work to substantiate your previous experience.
2. A brief description of the experience and qualifications of the proposed key staff members assigned to this program/project and what percentage of their time will be devoted to the program/project. Show their function in the program/project and a detailed resume' for each person. Additionally, the Proposer must specify where the staff will be located and identify the program/project manager.
3. Information displaying past fiscal responsibility such as independent audits or a list of programs/projects completed within the budget. Proposer must submit a copy of their latest audited financial statement completed by a certified public accountant within the past eighteen (18) months. A list of commitments, and potential commitments which may affect assets, lines of credit, guarantor letters, or otherwise affect the Proposer's ability to perform the Contract. THIS INFORMATION SHOULD BE PLACED IN A SEPARATE BINDER OR COVER ENTITLED "PROPOSER'S FINANCIAL STATEMENT".
4. A statement as to any judgments, litigations, licensing violations, or other violations, outstanding or resolved, associated with your company.

- F. **PROPOSER'S ORGANIZATION.** This section should include:

1. A brief description of your company's purpose, including goals, philosophy and date company was formed or incorporated.
2. A brief description of your present organizational structure and current operations. State whether your organization is an individual proprietorship, partnership, corporation, or private non-profit organization. Provide an organizational chart showing governing board members, advisory boards, etc. Show how your company interacts internally and with the proposed program/project.

- G. **NARRATIVE DESCRIPTION OF THE PROPOSAL.** The merit of the proposed program/project will be judged largely on the basis of your narrative description of the program/project. It is important that the proposal contain all information required for an effective review process.
- H. **DESCRIPTION.** In response to the Scope of Work section of the proposal, provide a clear and concise description of the services and equipment to be provided by your company. Describe the overall design to be used in carrying out the program/project and accomplishing its objectives. Each of the major tasks, or activities to be undertaken, as a means of reaching such objectives, must be specifically identified. Display the essential points of activity in a time sequence showing the amount of time allotted to each activity.
- (A milestone chart should be completed to display the time frame for achieving and accomplishing each major program/project task or activity. Flowcharts and other related graphics might accompany this section.)
- I. **RFP SUBMITTAL CHECKLIST.** Proposers should sign and submit all forms and certificates included in Exhibit A and listed on the RFP Submittal Checklist.
- J. **DISCLOSURE OF INFORMATION.** All information in a submitter's proposal, except proprietary technical and financial information and responsibility which may be protected by law, is subject to public disclosure under the provisions of the "Freedom of Information (FOIA)". This Act also provides for the complete disclosure of contracts and attachments thereto.

Each page considered to contain proprietary information in a proposal must be so stamped or otherwise identified by its proposer.

Following contract award, inspection of THE CITY OF LINCOLN's proposal file and contract documents may be made by making a request in writing to THE CITY OF LINCOLN's Contracting Officer. Inspections will be allowed during THE CITY OF LINCOLN's regular office hours and within specified time limits as directed by the Contracting Officer. Requests for copies of proposal or contract documents and the subsequent charges for providing this service will be processed in accordance with the provisions of the U.S. State "Freedom of Information Act". Payment of all copying costs incurred by THE CITY OF LINCOLN in response to a request for information will be required in advance from the requestor.

Information available for inspection shall include the tabulated totals of the price proposals and copies of the proposal or proposal documents, subject to the exceptions listed above and proprietary constraints within the law.

3.4 PROPOSAL COSTS

All costs of proposal preparation and presentation shall be borne by each individual proposer. THE CITY OF LINCOLN is not liable for any cost incurred by consultant prior to issuance of a contract.

PART 4

Basis Of Award, Selection Process And Evaluation Criteria

4.1 BASIS OF AWARD

These specifications represent features best suited to the requirements needed by THE CITY OF LINCOLN and are not for the benefit of the Proposers. THE CITY OF LINCOLN will select the proposal or combination of proposals that is the most advantageous to THE CITY OF LINCOLN and responsive to the specifications. THE CITY OF LINCOLN RESERVES THE RIGHT TO REJECT ANY OR ALL PROPOSALS OR ANY PART THEREOF, TO WAIVE ANY INFORMALITIES IN THE PROPOSAL AND MINOR IRREGULARITIES, AND TO MAKE AN AWARD ON THE BASIS OF SUITABILITY, QUALITY OF SERVICE(S) TO BE SUPPLIED, THEIR CONFORMITY WITH THE SPECIFICATIONS AND FOR THE PURPOSES FOR WHICH THEY ARE REQUIRED, DATES OF DELIVERY, AND NOT CONFINED TO PRICE ALONE. False, incomplete, or unresponsive statements in connection with the proposal may be deemed sufficient cause for rejection. THE CITY OF LINCOLN shall be the sole judge in making such determination.

THE CITY OF LINCOLN reserves the right to cancel or discontinue with the proposal process and reject all proposals in the event it determines that there is no longer a requirement for the item(s) and/or services(s), the funding is no longer available, or it is otherwise in THE CITY OF LINCOLN's best interest to cancel the proposal.

An Evaluation Committee consisting of selected personnel will be established to evaluate the proposals and to recommend the apparent successful Proposer.

4.2 SELECTION OF REQUEST FOR PROPOSAL

It is the intent of the Evaluation Committee to select an apparent successful Proposer with a recommendation to be forwarded to the City Council based on the evaluation criteria set forth herein. Selection will not be made on cost alone, but will be based upon the most advantageous proposal or combination of proposals. THE CITY OF LINCOLN RESERVES THE RIGHT TO REJECT ANY OR ALL PROPOSALS RECEIVED IN RESPONSE TO THIS PROPOSAL AND TO CANCEL THE PROPOSAL IF IT IS IN THE BEST INTEREST OF THE CITY OF LINCOLN.

4.3 EVALUATION CRITERIA

The Evaluation Committee will consider only those proposals which have been considered responsive to the proposal. Any proposal which fails to meet the requirements of the proposal, or for which a fixed dollar amount cannot be precisely determined, will be considered a non-responsive proposal and may be rejected.

Proposals shall be ranked on a total point scale of 100 and shall be evaluated according to the following criteria:

Criteria

Possible Points

A. PRODUCT DESIGN AND PERFORMANCE

30 points

The information provided by the Proposer in its technical submittal relating to the buses to be provided will be utilized to evaluate the proposal in relation to this factor. Failure to complete the "required submissions" BUS DESCRIPTION for each type of vehicle will impact the final point determination of this section. Vehicle construction and system design, as well as documented reliability may be used in this evaluation, as well as other design and performance elements of the components which comprise those systems. At a minimum, test results, safety and maintenance factors and cost of operation for the bus design and system components proposed may be considered in determining a final value for this factor.

B. TOTAL COST PER BUS

30 points

This factor will look primarily to the cost information provided by the Proposer for each bus configuration offered. The evaluation panel may consider the reliability of the buses to be provided, warranties and other factors affecting the overall cost in determining its assessment of points to be awarded.

C. MANUFACTURER'S REPUTATION AND PERFORMANCE **20 points**

This factor will look mainly at the capability and reputation of the bus manufacturer as presented in the proposal or as is determined by review of information available from references or other resources. The evaluation may look at the manufacturer's overall organizational and financial capabilities and consider key components such as organizational reporting structure, quality control, quality assurance, research and development, technical, training and parts support, response time, product capabilities, ability to furnish multiple bus configurations, bonding capacity, and financial history, as well as other considerations in reaching a final point determination. The evaluation panel may also look at judgments, liens, fleet defect history, warranty claims, and the steps that the manufacturer took to resolve these concerns in assessing the overall reputation of the manufacturer.

D. DELIVERY SCHEDULE

20 points

This factor will look mainly at the proposed delivery schedule for the minimum first year purchase, the remaining first year commitment and the option commitment. The earliest or shortest delivery schedules with evidence that it can be accomplished shall receive higher points.

4.4 FACTORY AND SITE VISIT

THE CITY OF LINCOLN reserves the right to conduct a factory or other site visit to assist in evaluation.

4.5 SINGLE PROPOSAL RESPONSE

If only one proposal is received, a detailed price/cost analysis may be requested of the single Proposer. The Proposer agrees to such analysis by submitting a proposal. THE CITY OF LINCOLN reserves the right to reject the single proposal.

4.6 NOTICE OF INTENT TO AWARD

A "Notice of Intent to Award" will be sent to all participating Proposers advising them of the date that the City Council will hear and possibly take action on the recommendation of the Evaluation Committee. This "Notice of Intent to Award" will be sent to all participating Proposers by U.S. Postal mailing or facsimile no later than eight (8) working days prior to the scheduled City Council meeting acting upon said "Intent to Award".

4.7 PUBLICITY

All publicity releases or releases of reports, papers, articles, maps or other documents in any way concerning this contract or the work hereunder which the Contractor or any of its subcontractors desires to make for purposes of publication in whole or in part, shall be subject to approval by the Contracting Officer prior to release.

Should the Contractor fail to observe this provision, THE CITY OF LINCOLN shall have the right to terminate the contract without any obligation to accept deliveries after the date of termination or to make further payment except for completed articles delivered prior to termination.

4.8 PROTEST

If an unsuccessful Proposer believes its submission to be the most responsive to THE CITY OF LINCOLN's proposal and that THE CITY OF LINCOLN has incorrectly selected another Proposer for award, the appealing Proposer may submit a timely protest of the selection as described below:

- A. All protests must be made in writing, dated, signed by the Proposer or an individual authorized to sign contracts on behalf of the protesting Proposer, and contain a statement of the reason(s) for protest; citing the law(s), rule(s) and regulation(s) or procedure(s) on which the protest is based. The protesting Proposer must provide facts and evidence to support the protest.
- B. Protest(s) to THE CITY OF LINCOLN's Notice of Intent to Award must be sent either by U.S. mail, postage prepaid, or by personal delivery to:

THE CITY OF LINCOLN
440 S 8th St, Ste 200
Lincoln NE 68508

With a copy to:

THE CITY OF LINCOLN - StarTran
710 "J" Street
Lincoln, NE 68508

- C. All protests of THE CITY OF LINCOLN's intended award decision must be received by THE CITY OF LINCOLN no later than five (5) working days following THE CITY OF LINCOLN's U.S. postal or facsimile mailing of the "Notice of Intent to Award" to the Proposer.

4.9 PROTEST PROCEDURES

These procedures will apply to all procurement actions, whether by sealed bid, request for proposal, sole source, or involving state or federal funds, and regardless of the stage of the procurement process at which the protest is filed.

The Contracting Officer shall investigate the matter and respond in writing to each point raised by the Proposer within five (5) working days. In addition, the Contracting Officer shall specify in writing any action to be taken by THE CITY OF LINCOLN.

If the Proposer is not satisfied with the decision of the Contracting Officer, the Proposer may appeal the decision in writing to be received by THE CITY OF LINCOLN within three (3) working days after the U.S. postal or facsimile mailing of the decision of the Contracting Officer addressed to THE CITY OF LINCOLN Transit Manager. The appeal shall be submitted at THE CITY OF LINCOLN's address.

The Transit Manager shall investigate and shall respond in writing specifying any differences between his findings and those of the Contracting Officer. The Transit Manager shall also state the action to be taken by THE CITY OF LINCOLN or the fact that no action shall be taken. The decision of the Transit Manager is the final decision of THE CITY OF LINCOLN.

In the event the protest is based all or in part on the allegation that THE CITY OF LINCOLN does not have written protest procedures or has not followed such procedures, the Proposer will be notified of its right to seek FTA review of THE CITY OF LINCOLN's decision within five (5) calendar days of THE CITY OF LINCOLN's final decision. Should THE CITY OF LINCOLN fail to render a final decision, the protest must be filed with FTA within five (5) calendar days after the Proposer knows or has reason to know that THE CITY OF LINCOLN has failed to so act. The request for review must be in writing to FTA and be filed in accordance with FTA Circular 4220.1C, as periodically updated.

In all other circumstances, the Proposer will be notified of its right to appeal to the appropriate state or local administrative or judicial authorities.

In the event a protest has been timely filed before award, THE CITY OF LINCOLN shall not make an award prior to five (5) calendar days after resolution of the protest, or if a protest has been filed with FTA, during the pendency of that protest unless THE CITY OF LINCOLN makes a written determination that:

- a. The items to be procured are urgently required;
- b. Delivery or performance will be unduly delayed by failure to make the award promptly;
or
- c. Failure to make prompt award will otherwise cause undue harm to THE CITY OF LINCOLN or the Federal Government.

PART 5

Terms And Conditions

5.1 GENERAL INFORMATION

THE CITY OF LINCOLN reserves the right to reject any and all proposals, subject to the rules and regulations set forth by the Federal Transit Administration. THE CITY OF LINCOLN may waive any informality, technical defect or clerical error in any proposal.

Each proposal must include the firm's name, address, dated and signed by an authorized signer. The proposal shall be made on the form provided.

- a. **SOLE OWNER:** If the bid is made by a sole owner, it shall be signed with his/her full name and his/her address shall be given.
- b. **PARTNERSHIP:** If the bid is made by a partnership, it shall be signed with the partnership name by a member of the firm who shall also sign his/her own name and the name and address of each member shall be given.
- c. **CORPORATION:** If the Proposer is a corporation, the bid form shall be signed by one corporate officer from each of the following two groups of officers (both signatures cannot be from the same group):

Group 1: Chair of the Board, President or Vice President; and

Group 2: Board Secretary, Assistant Board Secretary, Chief Financial Officer, Assistant Treasurer or a person authorized by the corporation to execute written bid forms on its behalf. If the second signature is executed by a person other than an officer listed in Group 2, there must be attached to the proposal form a certified copy of a resolution of the corporation authorizing such officer or other person to execute written bids for and on behalf of the corporation.

The corporate seal shall be affixed thereto. If the corporate seal is not affixed to the bid, there must be attached to the bid form a certified copy of a resolution of the corporation authorizing such officers or person to execute written bids for and on behalf of the corporation.

- d. **JOINT VENTURE:** If the bid is made by a joint venture, it shall be signed on behalf of each participating company by officers or other individuals who have full and proper authority to do so.
- e. Proposals submitted in any other form will be considered non-responsive and will be rejected.

5.2 QUALIFICATIONS OF PROPOSER

THE CITY OF LINCOLN may make such investigation as it deems necessary to determine the ability of the Proposer to provide the service requested herein, and the Proposer shall furnish to THE CITY OF LINCOLN all information and data for this purpose as THE CITY OF LINCOLN may request. THE CITY OF LINCOLN reserves the right to reject any proposal if the evidence submitted by, or investigation of, the Proposer fails to satisfy THE CITY OF LINCOLN that such Proposer is properly qualified to carry out the obligations of the proposal and to complete the requirements contemplated therein.

5.3 INTEGRITY OF EXPENDITURE

The Proposer assures that every reasonable course of action will be taken to maintain the integrity of expenditure of public funds and to avoid any favoritism, or questionable or improper conduct, if awarded any Contract that may result from this proposal.

5.4 GRATUITIES

Neither the Proposer nor any person, firm, or corporation employed by the Proposer shall give, directly or indirectly, to any employee or agent of THE CITY OF LINCOLN, any gift, money, or anything of value, or any promise, obligation, or contract for future reward or compensation, during the proposal process or during the performance of any contract period resulting from this proposal.

5.5 INDEPENDENT CONTRACTOR

It is expressly understood that in the performance of any services resulting from this proposal, Proposer is an independent contractor and is not an agent or employee of THE CITY OF LINCOLN and warrant that all persons assigned to the program/project are employees of the Proposer. In the event the awarding Proposer shall employ others to complete or perform the services provided, Proposer shall be solely responsible and hold THE CITY OF LINCOLN harmless from all matters relating to the payment of such person(s).

It is mutually understood and agreed that no employee-employer relationship will be created and that the awarding Proposer shall hold THE CITY OF LINCOLN harmless and be solely responsible for withholding, reporting and payment of any federal, state or local taxes, contributions or premium imposed or required by workers' compensation, unemployment insurance, social security, income tax or other statutes or codes applying to Proposer, or its subcontractors and employees, if any.

It is mutually agreed and understood that the Proposer, its subcontractors and employees, if any, shall have no claim under any Contract that may result from this proposal or otherwise against THE CITY OF LINCOLN, for vacation pay, sick leave, retirement or social security benefits, occupation or non-occupational injury, disability or illness, or loss of life or income, by whatever cause.

5.6 FEDERAL AND STATE TAXES

The awarded Proposer shall pay all taxes lawfully imposed upon it with respect to this proposal or any product delivered with respect to any Contract that may result from this proposal. THE CITY OF LINCOLN makes no representation whatsoever as to the exemption from liability to any tax imposed by any government entity on the awarded Proposer.

5.7 COMPLIANCE WITH LAWS AND REGULATIONS

The awarded Proposer warrants that it is and will remain in compliance with all Federal, State laws relating to the manufacture, sale, and delivery of the goods and services sold to THE CITY OF LINCOLN in connection with any Contract resulting from this proposal.

5.8 PROHIBITED INTEREST

No City of Lincoln employee, officer, or agent, including any member of the evaluating committee for THE CITY OF LINCOLN project, may participate in the selection, award, or administration of a Authority contract if a real or apparent conflict of interest would exist. Such a conflict would exist when any of the parties set forth below has a material financial or other interest in a firm selected for award:

- Any employee, officer, or agent of THE CITY OF LINCOLN;
- Any member of his/her immediate family;
- His/her partner; or
- An organization employing or about to employ any of the above.

Any interest as owner or stockholder of one percent (1%) or less in such a firm shall not be deemed to be a material financial interest, but serving as Director, officer, consultant, or employee of such an organization would be deemed a material interest.

5.9 REMEDIES/BREACH OF CONTRACT

If the awarded Proposer breaches any provision in any Contract resulting from this proposal, the awarded Proposer agrees to reimburse THE CITY OF LINCOLN for all damages suffered, including but not limited to incidental, consequential and other damages, as well as lost profits. The remedies in any Contract resulting from this proposal shall be cumulative and in addition to any other remedies allowed to THE CITY OF LINCOLN under applicable law. No waiver by THE CITY OF LINCOLN of any breach or remedy shall be a waiver of any other breach or remedy.

5.10 LIQUIDATED DAMAGES

In the event of delay in the completion of deliveries of buses beyond the dates specified in any Contract resulting from this proposal and not subject to the Excusable Delays provision, THE CITY OF LINCOLN shall assess, as liquidated damages, \$100.00 per bus, per calendar day. These damages shall be deducted from any monies due, or which may thereafter become due to the awarded Proposer under any Contract resulting from this proposal. Further, the awarded Proposer agrees that sums assessed as liquidated damages shall not be considered penalties but reflect the cost to THE CITY OF LINCOLN for lease buses to meet service needs and to administer the Project.

5.11 EXCUSABLE DELAYS

Except for defaults of subcontractors at any tier, the Contract shall not be in default because of any failure to perform this contract under its terms if the failure arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of these causes are (1) acts of God or of the public enemy, (2) acts of THE CITY OF LINCOLN in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance, the failure to perform must be beyond the control and without the fault or negligence of the Contractor. "Default" includes failure to make progress in the work so as to endanger performance.

If the failure to perform is caused by the failure of a subcontractor at any tier to perform or make progress, and if the cause of the failure was beyond the control of both the Contractor and subcontractor and without the fault or negligence of either, the Contractor shall not be deemed to be in default, unless:

- a. the subcontracted supplies or services were obtainable from other sources;
- b. the Contracting Officer ordered the Contractor in writing to purchase these supplies or services from the other source; and
- c. the Contractor failed to comply reasonable with this order.

Upon request of the Contractor, the Contracting Officer shall ascertain the facts and extent of the failure. If the Contracting Officer determines that any failure to perform results from one or more of the causes above, the delivery schedule shall be revised, subject to the rights of THE CITY OF LINCOLN under the Termination Clause of this RFP.

5.12 TERMINATION

The contract may be terminated for reasons of THE CITY OF LINCOLN's convenience or Contractor's breach or insolvency. Notice of termination shall be accomplished by registered, certified or express mail.

- A. **Termination for Convenience.** THE CITY OF LINCOLN may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to THE CITY OF LINCOLN to be paid. If the Contractor has any property in its possession belonging to THE CITY OF LINCOLN, the Contractor will account for the same, and dispose of it in the manner THE CITY OF LINCOLN directs.
- B. **Termination for Breach or Cause.** If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, THE CITY OF LINCOLN may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by THE CITY OF LINCOLN that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, THE CITY OF LINCOLN, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

- C. **Opportunity to Cure.** THE CITY OF LINCOLN in its sole discretion may, in the case of a termination for breach or default, allow the Contractor ten (10) days in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.

If Contractor fails to remedy to THE CITY OF LINCOLN's satisfaction the breach or default or any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor or written notice from THE CITY OF LINCOLN setting forth the nature of said breach or default, THE CITY OF LINCOLN shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude THE CITY OF LINCOLN from also pursuing all available remedies against Contractor and its sureties for said breach or default.

- D. **Waiver of Remedies for any Breach.** In the event that THE CITY OF LINCOLN elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by THE CITY OF LINCOLN shall not limit THE CITY OF LINCOLN's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.
- E. **Termination for Default.** If the Contractor fails to deliver supplies or to perform the services within the time specified in this contract or any extension or if the Contractor fails to comply with any other provisions of this contract, THE CITY OF LINCOLN may terminate this contract for default. THE CITY OF LINCOLN shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner or performance set forth in this contract.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Recipient.

5.13 INTERCHANGEABILITY

All units and components procured under any Contract resulting from this proposal, whether provided by suppliers or manufactured by the awarded Proposer, shall be duplicates in design, manufacture and installation to assure interchangeableness among items in this procurement. This interchangeableness shall extend to the individual components as well as to their locations in the unit.

5.14 TITLE

Title to goods acquired by THE CITY OF LINCOLN under any Contract resulting from this proposal shall pass to THE CITY OF LINCOLN when such goods are delivered, installed and accepted by THE CITY OF LINCOLN. The Proposer shall provide adequate documents for securing title to THE CITY OF LINCOLN within thirty (30) days of final acceptance.

5.15 INSPECTION

THE CITY OF LINCOLN reserves the right and shall be at liberty to inspect all materials and workmanship at any time during the manufacturing or installation process, including having representatives at Contractor's plant ("Resident Inspectors"); provided, however, it is under no obligation to make such inspection, and no inspection so made shall relieve awarded Proposer from any obligation to furnish materials and workmanship strictly in accordance with the instructions, any Contract resulting from this proposal requirements and specifications.

Any work or material found to be in any way defective or unsatisfactory shall be corrected or replaced by the awarded Proposer at its own expense at the order of THE CITY OF LINCOLN notwithstanding that it may have been previously overlooked or passed by an inspector. Inspection shall not relieve the awarded Proposer of its obligations to furnish materials and workmanship in accordance with any Contract resulting from this proposal and its specifications.

5.16 DELIVERY/ASSUMPTION OF RISK OF LOSS, INSPECTION, ACCEPTANCE

- A. DELIVERY/ASSUMPTIONS OF RISK OF LOSS. THE CITY OF LINCOLN shall assume risk of loss of the vehicle after delivery to its facility. Prior to this delivery or release, the awarded Proposer shall have risk of loss of the vehicle, including any damages sustained during the common carrier drive-away operation. Drivers shall keep a maintenance log en route and it shall be delivered to THE CITY OF LINCOLN with the vehicle.
- B. INSPECTION/ACCEPTANCE. Proposer shall deliver buses in accordance with accepted delivery schedule in first class condition. THE CITY OF LINCOLN shall inspect such buses and notify Contractor within thirty (30) days of acceptance or non-acceptance and the reasons therefore. Contractor shall make all repairs/corrections within forty five (45) days. THE CITY OF LINCOLN may make repairs if Contractor refuses to do so and deduct costs from payments due. THE CITY OF LINCOLN will re-inspect and notify Contractor of acceptance within thirty (30) days.

5.17 COMMUNICATION

Communications in connection with this Project shall be in writing and shall be delivered personally, by telegram, or by regular, registered or certified mail addressed to THE CITY OF LINCOLN Project Manager, and of the awarded Proposer contractually designated to receive such communications. Telephone calls may be used to expedite communications but shall not be official communication unless confirmed in writing. Communications shall be considered received at the time actually received by the addressee or designated agent.

5.18 MATERIALS/ACCESSORIES RESPONSIBILITY

The awarded Proposer shall be responsible for all materials and workmanship in the construction of the coach and all accessories used, whether the same are manufactured by the awarded Proposer or purchased from suppliers. This provision excludes tires, fare boxes, radios and equipment leased or supplied by THE CITY OF LINCOLN except insofar as such equipment is lost or damaged by the failure of a part or component for which the awarded Proposer is responsible, or except insofar as the damage to such equipment is caused by the awarded Proposer during the manufacture of the coaches.

5.19 INDEMNIFICATION

The awarded Proposer shall indemnify, defend and hold harmless THE CITY OF LINCOLN and all its directors, officers and employees and agents thereof connected with the work, from all claims, suits or actions of every name, kind and description, brought forth, or on account of, injuries to or death of any person including but not limited to workmen and the public, or damage to or loss of property resulting from the performance of any Contract resulting from this proposal by the Contractor or its agents, unless caused by the sole negligence of THE CITY OF LINCOLN. These obligations shall survive termination of the Contract.

5.20 FLY AMERICA REQUIREMENTS

The Contractor agrees to comply with 49 U.S.C. § 40118 (the "Fly America Act") in accordance with the General Services Administration's regulations at 41 CFR Part 301.10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this Section in all subcontracts that may involve international air transportation.

5.21 BUY AMERICA REQUIREMENTS.

General Requirements. The Contractor agrees to comply with 49 U.S.C. § 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, microcomputer equipment, software, and small purchases (currently less than \$100,000) made with capital, operating, or planning funds. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 66 1.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have a 60 percent domestic content.

All Proposers must submit the appropriate Buy America certification to THE CITY OF LINCOLN with their proposal, except those subject to a general waiver. Proposals or offers that are not accompanied by a completed Buy America certification must be rejected as non-responsive. This requirement does not apply to lower tier subcontractors.

Rolling Stock Requirements. If the highest ranking Proposer certifies compliance, then the Proposer must provide the following information within five (5) days of the staff recommendation for award in order for THE CITY OF LINCOLN to verify compliance prior to Contract award as required by the FTA:

- a. Listing of component and subcomponent parts of the coach identified by manufacturer of the parts, their country of origin and costs; and
- b. The location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.

The recommended Proposer shall submit this information in the format shown on "Buy America Worksheet," included in the RFP (Exhibit E). If the recommended Proposer is not in compliance, THE CITY OF LINCOLN will request that the next highest-ranking Proposer provide the necessary information. The successful Proposer will be required to update this information prior to acceptance of the equipment.

If the recommended Proposer is unable to certify compliance with the Buy America requirements, but believes that it may qualify for an exception to the requirements consistent with Section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, THE CITY OF LINCOLN will tender the request for exception(s) to the FTA for review and approval on behalf of the Proposer.

The Contractor shall submit the following certifications (Exhibit F):

- a. Evidence that it will be capable of meeting the specifications; and
- b. The manufacturer's Federal Motor Vehicle Safety Standards (FMVSS) self-certification sticker information that the vehicle complies with the relevant FMVSS, or the manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

Proposers are advised to review the specific Buy America Requirements contained in the regulations at 49 CFR Part 661.

5.22 BUS TESTING

THE CITY OF LINCOLN has certified to the FTA that it will comply with the Federal Transit Act and the Code of Federal Regulations, 49 CFR Part 665, regarding testing of new bus models. Specifically, any new bus model or any bus model with a major change in configuration or components to be acquired with Federal funds will be tested at the bus testing facility in Altoona, Pennsylvania and a test report provided before final acceptance of the first vehicle by THE CITY OF LINCOLN. THE CITY OF LINCOLN shall have the final authority to determine whether a bus model is a "new bus model" requiring testing.

The recommended Proposer shall submit a copy of the test report showing that the bus model intended for manufacture underwent testing at the bus testing facility in Altoona, Pennsylvania and complies with 49 U.S.C. 5323(c) and 49 CFR Part 665.

If the bus model intended for manufacture has not already been tested, then the Contractor is solely responsible for arranging for the required testing prior to THE CITY OF LINCOLN's acceptance of the first vehicle. Failure to submit a bus model to testing will be grounds for terminating the Contract. Contractor shall bear all costs of testing and the time for testing shall not be grounds delay in the time for performance set forth in the Contract Documents. Any bus that is tested pursuant to

this provision shall remain the property of the Contractor; THE CITY OF LINCOLN shall receive only new buses.

Contractor shall complete the enclosed Form, entitled "FTA Bus Testing Certification," submit the form with the Proposal Forms (Exhibit G).

5.23 CARGO PREFERENCE REQUIREMENTS

The Contractor agrees: (a) to use privately owned United States Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract by ocean vessels to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; (b) to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to THE CITY OF LINCOLN (through the Contractor in the case of a subcontractor's bill-of-lading); and (c) to include these requirements in all subcontracts issued pursuant to this Contract when the subcontract may involve the transport of equipment, Material, or commodities by ocean vessel.

5.24 ENERGY CONSERVATION

The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the federal Energy Policy and Conservation Act.

5.25 CLEAN WATER AND AIR REQUIREMENTS.

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251, et. seq., and the Clear Air Act, as amended, 42 U.S.C. §§ 7401, et. seq. The Contractor agrees to report each violation to THE CITY OF LINCOLN and understands and agrees that THE CITY OF LINCOLN will, in turn, report each violation as required to assure notification to the FTA and the appropriate EPA regional office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in part or in whole with federal assistance provided by the FTA.

5.26 LOBBYING

Contractor shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Contractor shall certify that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Contractor shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. § 1352. Such disclosures shall be forwarded to THE CITY OF LINCOLN (Exhibit H). Contractor shall ensure that all of its Subcontractors under this Contract shall certify the same. Contractor shall submit the "Lobbying Certification for

Contracts, Grants and Cooperative Agreements" included in the proposal forms (Exhibit I). THE CITY OF LINCOLN is responsible for keeping the certification of the Contractor, who is in turn responsible for keeping the certification forms of subcontractors.

5.27 CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

The Contractor shall submit the certification with its proposal showing that neither the Contractor nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal department or agency. For this purpose, the Contractor must complete and execute the form entitled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion," which is included in the proposal forms (Exhibit J). Contractor also agrees to include this provision in any subcontract exceeding \$100,000 and to obtain a similar certification from any subcontractors seeking a subcontract exceeding \$100,000 and forward the certification to THE CITY OF LINCOLN.

5.28 MOTOR VEHICLE SAFETY AND POLLUTION

By submitting a proposal hereunder, the Proposer certifies that the coaches offered are and will be on the date of manufacture in compliance with the following: (1) all applicable requirements and regulations of United States Environmental Protection Agency; (2) all applicable regulations and requirements of United States Department of Transportation, including the Federal Motor Vehicle Safety Standards; and (3) all applicable requirements and regulations of the laws of the State, including all regulations set forth by the State Highway Patrol.

Should the Contractor find that these specifications do not meet such requirements, this Contractor shall be responsible for notifying THE CITY OF LINCOLN in writing of any discrepancies prior to the start of the manufacture process.

Contractor shall complete the form entitled "Motor Vehicle Safety and Pollution Certificate," which is included in the proposal forms (Exhibit K).

5.29 ACCESS TO RECORDS AND REPORTS

Contractor shall provide all authorized representatives of THE CITY OF LINCOLN, the FTA, and the Comptroller General of the United States access to any books, documents, papers and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, copies, examinations, excerpts and transcriptions. Contractor also agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain the same until THE CITY OF LINCOLN, the FTA, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

5.30 FEDERAL CHANGES

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement (Form FTA MA (6) dated October, 1999) between THE CITY OF LINCOLN and the FTA, as they may be amended or promulgated from time to time during the term of this Contract. Contractor's failure to so comply shall constitute a breach of this Contract.

5.31 LABOR PROVISIONS – Non-construction Contracts

Pursuant to Department of Labor regulations, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 CFR, Part 5, and pertaining to all federally-assisted non-construction contracts of \$2,500 let by THE CITY OF LINCOLN, the affected Contractor shall comply with the following provisions:

- a. **Overtime Requirements.** No Contractor or subcontractor, contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic, in any work week in which he or she is employed on such work, to work in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such work week, unless such laborer or mechanic receives compensation at a rate not less than one and one-half (1 1/2) the basic rate of pay for all hours worked in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such work week, whichever is greater.
- b. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in Subparagraph (b) (1), 29 CFR, Section 5.5, the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a Territory, to such District or to such Territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in Subparagraph (b) (1) of 29 CFR, Section 5.5, in the sum of ten (\$10) dollars for each calendar day in which such individual was required or permitted to work in excess of eight (8) hours or in excess of the standard work week of forty (40) hours without payment of the overtime wages required by the clause set forth in Subparagraph (b) (1) of 29 CFR, Section 5.5.
- c. **Withholding for Unpaid for Unpaid Wage and Liquid Damages.** DOT or the recipient shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same price Contractor, or any other Federally assisted contract subject to the contract work hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in Subparagraph (b) (2) of 29 CFR, Section 5.5.
- d. **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in subsections A through D of this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subsections A through D of this Section.
- e. **Non-Construction Contracts.** In addition to the clauses contained in 29 CFR, Section 5.5 (b) or subsections A-D of this Section, in any contract subject only to the contract

work hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR, Section 5.1, THE CITY OF LINCOLN shall insert a clause requiring that the Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, Social Security Number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, THE CITY OF LINCOLN shall require the Contracting Officer to insert in any such contract a clause providing that the records to be maintained under this subsection shall be made available by the Contractor or subcontractor for inspection, copying or transcription by authorized representatives of DOT and the Department of Labor, and the Contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5.32 NO GOVERNMENT OBLIGATION TO THIRD PARTIES.

THE CITY OF LINCOLN and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to THE CITY OF LINCOLN, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

5.33 PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS.

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801, et seq., and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this Contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under THE CITY OF LINCOLN of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

5.34 PRIVACY ACT

The following requirements apply to Contractor and any of its employees that may administer any system of records on behalf of the Federal Government under any contract:

- a. The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.
- b. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

5.35 CIVIL RIGHTS REQUIREMENTS.

Nondiscrimination. In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, § 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, § 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

Equal Employment Opportunity. The following equal employment opportunity requirements apply to this Contract:

- A. **Race, Color, Creed, National Origin, Sex.** In accordance with Title VII of the Civil Rights Act; as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 113 75, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project.

During the performance of this contract, the contractor agrees as follows:

- i. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or

recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- ii. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, or national origin.
- iii. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this Section, and shall post copies of the notices in conspicuous places available to employees and applicants for employment.
- iv. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- v. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- vi. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- vii. The contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempt by rules, regulations, or orders of the Secretary of Labor issued pursuant to § 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

- B. Age. In accordance with § 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- C. Disabilities. In accordance with § 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment

Provisions of the Americans with Disabilities Act,” 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

Access Requirements for Individuals with Disabilities. The Contractor agrees to comply with the requirements of 49 U.S.C. § 5301(d) which expresses the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement those policies. Contractor also agrees to comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), 42 U.S.C. §§ 12101, et seq., and 49 U.S.C. § 322; § 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; § 16 of the Federal Transit Act, as amended; 49 U.S.C. App. § 612; and the following federal regulations, including any amendments thereto:

- A. U.S. DOT regulations, “Transportation Services for Individuals with Disabilities (ADA),” 49 C.F.R. Part 37;
- B. U.S. DOT regulations, “Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance,” 49 C.F.R. Part 27;
- C. Joint U.S. Architectural and Transportation Barriers Compliance Board/U.S. DOT regulations, “Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles,” 36 C.F.R. Part 1192 and 49 C.F.R. Part 38;
- D. U.S. DOJ regulations, “Nondiscrimination on the Basis of Disability in State and Local Government Services,” 28 C.F.R. Part 35;
- E. U.S. DOJ regulations, “Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities,” 28 C.F.R. Part 36;
- F. U.S. GSA regulations, “Accommodations for the Physically Handicapped,” 41 C.F.R. Subpart 101-19;
- G. U.S. Equal Employment Opportunity Commission, “Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,” 29 C.F.R. Part 1630;
- H. U.S. Federal Communications Commission regulations, “Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled,” 47 C.F.R. Part 64, Subpart F;
- I. FTA regulations, “Transportation for Elderly and Handicapped Persons,” 49 C.F.R. Part 609; and
- J. Any other implementing federal regulations and requirements.

The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties (Exhibit N).

5.36 DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS

THE CITY OF LINCOLN, a recipient of federal financial assistance from the Federal Transit Administration, is committed to and has adopted a Disadvantaged Business Enterprises Policy in accordance with federal regulations (49 C.F.R. Part 26, as amended) issued by the U.S. Department of Transportation. It is the Policy of THE CITY OF LINCOLN to ensure nondiscrimination in the award and administration of DOT-assisted contracts and to create a level playing field on which DBEs can compete fairly for contracts and subcontracts relating to Authority’s construction, procurement and professional services activities. To this end, THE CITY OF LINCOLN has developed procedures to remove barriers to DBE participation in the bidding and award process and

to assist DBEs to develop and compete successfully outside of the DBE program. In connection with the performance of this contract, the Contractor will cooperate with THE CITY OF LINCOLN in meeting these commitments and objectives.

Accordingly, each Proposer must submit with the proposal forms a certification showing that the Transit Vehicle Manufacturer of the vehicles offered by that Proposer has submitted a required annual DBE goal to the FTA for approval and that the FTA has approved or has not disapproved the goal. For this purpose, each Proposer must complete and execute the form entitled "Transit Vehicle Manufacturer's Certification of Compliance with 49 CFR Part 26.49(a)," which is included in the proposal forms (Exhibit L).

5.37 INSURANCE AND TAXES

The awarded Proposer shall obtain and maintain in full force and effect throughout the term of the Contract, such insurance and Workers Compensation Insurance as set forth herein. The awarded Proposer shall assume full financial responsibility for its personnel, including all deductions of Social Security and withholding taxes and required contributions to state and federal unemployment compensation funds. Awarded Proposer shall include all Subcontractors as insured under its policies or shall furnish separate certificates or endorsements for each Subcontractor. All Subcontractors shall be subject to all of the requirements stated herein.

Awarded Proposer shall provide Certificates of Insurance evidencing such coverage to THE CITY OF LINCOLN before the commencement of any work under any Contract resulting from this proposal.

- A. Comprehensive General Broad Form or Commercial General Liability: \$1,000,000 combined single limits per occurrence and \$1,000,000 annual aggregate covering bodily injury, personal injury and property damage.
- B. Automotive Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage, or split limits of \$500,000 per person/\$1,000,000 per accident for bodily injury and \$250,000 per accident for property damage.

THE CITY OF LINCOLN and its officers, employees and agents shall be endorsed to above policies as Additional Insured for such liability as may be incurred on the performance of any Contract resulting from this proposal.

- C. Workers' Compensation Statutory coverage, if and as required according to the State Labor Code, including Employers' Liability limits of \$1,000,000 per accident. The policy shall be endorsed to waive the insurer's subrogation rights against THE CITY OF LINCOLN.

5.38 INSURANCE CONDITIONS

Insurance is to be placed with admitted insurers rated by A.M. Best Co. as A:VII or higher. Lower rated, or approved but not admitted insurers, may be accepted if prior approval is given by THE CITY OF LINCOLN's Contracting Officer.

Each of the above-required policies shall be endorsed to provide THE CITY OF LINCOLN with thirty (30) days prior written notice of cancellation. THE CITY OF LINCOLN is not liable for the payment of premiums or assessments on the policy. No cancellation provisions in the insurance policy shall be construed in derogation of the continuing duty of the awarded Proposer to furnish insurance during the term of any Contract resulting from this proposal.

These requirements assume that standard insurance policy forms, terms, and conditions will apply to cover the expected risk exposures for the intended Scope of Work. Additional qualifying policy conditions or special endorsements may be specified in a Contract resulting from this proposal depending on the final Scope of Work agreed on by THE CITY OF LINCOLN and the awarded Proposer. Insurance questions may be directed to THE CITY OF LINCOLN's Contracting Officer for response.

5.39 INTEREST OF MEMBERS CONGRESS

No member of or delegate to the Congress of the United States shall be admitted to any share or part of any Contract resulting from this proposal or to receive any benefits therefrom.

5.40 PROPOSAL GUARANTEE

Each proposal must be accompanied by a Proposal Guarantee in the amount of One Million Dollars (\$1,000,000). At the option of the Proposer, this may be a certified check, cashier's check, or Bid Bond. Bid Bonds shall be executed as a Surety by a corporation licensed to issue Surety Bonds in the State. Bid securities will be returned to all except the three lowest Proposers, which will be retained until the accepted Proposer has entered into a Contract with THE CITY OF LINCOLN (Exhibit M).

5.41 FORFEITURE OF PROPOSAL GUARANTEE

The Proposal Guarantee shall be submitted with the understanding that it is a guarantee that the Proposer will not withdraw their proposal during such time and under the conditions set forth herein; that they will enter into a formal Contract if it is awarded to them; that they will furnish the required bonds and that the bid security will be declared forfeited as liquidated damages in the event of withdrawal of their proposal or in the event of failure to enter into said Contract and give said bonds within the time specified after they have received notice of an award. THE CITY OF LINCOLN may then award the Contract to the next responsible Proposer or Proposers, or may call for new proposals.

5.42 PERFORMANCE BONDS

Bond Requirements: Awarded Proposer shall furnish to THE CITY OF LINCOLN, one or more bonds, conditioned upon its faithful performance of all its obligations hereunder and upon its payment for all labor, materials, and other things used in the performance of Work from a surety acceptable to THE CITY OF LINCOLN, in such form and amount as THE CITY OF LINCOLN may prescribe. The bond(s) shall be approved as to form by THE CITY OF LINCOLN's Contracting Officer, executed by the Proposer as principal and by a corporation licensed to issue such bonds on the State. The premiums for all such bonds which are required by law or which have been requested by THE CITY OF LINCOLN prior to the time of awarded Proposer's execution of any Contract resulting from this proposal or required by the contract documents shall be deemed to be included in the contract price, and no additional compensation shall be payable to the awarded Proposer with respect to such bonds. The Performance Bond shall be in a sum equal to fifty percent (50%) of the total amount payable for the initial order of buses.

Such bonds are required to be submitted to THE CITY OF LINCOLN with the executed contract.

Time of Delivery and form of Bonds: The awarded Proposer shall deliver any additional required bonds to THE CITY OF LINCOLN upon exercise of any options by THE CITY OF LINCOLN not later than sixty (60) days after receipt of written notification of order for each bus(es), as required by THE CITY OF LINCOLN throughout the term of any Contract resulting from this proposal.

5.43 NO PERSONAL LIABILITY

No Board Member, officer, agent, or employee of THE CITY OF LINCOLN shall be held personally liable under this agreement, or because of the execution or attempted execution hereof or because of any breach hereof.

5.44 THE CITY OF LINCOLN NOT OBLIGATED

This Request for Proposals does not commit THE CITY OF LINCOLN to award a contract, to pay any costs incurred in the preparation or presentation of a proposal, or to procure or contract for services. THE CITY OF LINCOLN reserves, at its sole discretion, the right to reject any and all proposals received as a result of this Request for Proposals, and to waive informalities and irregularities in proposals received. THE CITY OF LINCOLN also reserves, at its sole discretion, the right to negotiate with all qualified sources, or to cancel, in part or its entirety, this Request for Proposals. THE CITY OF LINCOLN does not intend to award a contract solely on the basis of any response made to this Request for Proposals, or otherwise pay for information solicited or obtained. THE CITY OF LINCOLN may require selected proposers to participate in negotiations and to submit cost, technical or other revisions to their proposals in connection with or resulting from the negotiations.

THE CITY OF LINCOLN will not debrief formally or informally any firm's team who submitted proposals in response to Request for Proposals, nor are any documents or proposals received to be available for review by any consultant firm/teams.

5.45 CONTRACTUAL RELATIONSHIP BETWEEN PARTIES

A. Severability

If any part of the Contract between THE CITY OF LINCOLN and the Successful Contractor is held invalid or unenforceable, it shall be revised so as to make it valid and enforceable, consistent with the intent of the parties expressed in that provision. The other provisions of the Contract will remain in full force and effect.

B. Disputes

Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision in writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive. The decision of the Contracting Officer may be appealed in writing to THE CITY OF LINCOLN's Transit Manager within ten (10) days of receipt of the Contracting Officer's decision. The written decision of the Transit Manager shall be THE CITY OF LINCOLN's final agency action regarding the dispute.

Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

This clause does not preclude consideration of law questions in connection with the decision provided for in this clause, provided that nothing in this Contract shall be construed as making final the decision of any administrative official, representative or board on a question of law.

Disputes under the Contract shall be resolved by mediation, arbitration, or administrative process. In the event of a legal dispute under this contract, THE CITY OF LINCOLN and the Contractor agree that proper venue for purposes of litigation shall be the Circuit Court, U.S.A.

5.46 ASSIGNMENT

The Contractor shall not assign or transfer any interest in the contract or delegate its performance of duties, except upon written approval of THE CITY OF LINCOLN, which approval shall not be unreasonably withheld. Consent to assign, transfer or delegate any interest or performance on this contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract.

5.47 GOVERNING LAW

The Agreement, which may ensue under this solicitation, shall be governed exclusively by the federal laws of the United States of America and the laws of the State. THIS AGREEMENT WILL NOT BE GOVERNED BY THE UNITED NATIONS CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS OR BY THE PROVISIONS OF ARTICLE 2A OF THE UNIFORM COMMERCIAL CODE, THE APPLICATION OF WHICH IS EXPRESSLY EXCLUDED.

The laws of the State shall govern the rights, obligations, and remedies of the parties. Whenever there is no applicable state statute or decisional precedent governing the interpretation of, or disputes arising under or related to, this contract, then Federal common law, including the law developed by Federal boards of contract appeals, the United States Claims court (formerly the Court of Claims), and the Comptroller General of the United States, shall govern. Venue of any action shall lie exclusively in the County. This is the complete agreement between the parties. If any provision of the contract is found to be invalid or unenforceable, the remaining provisions shall not be impaired.

5.48 ARBITRATION

In the case of any controversy between the parties concerning but not limited to the validity, construction or interpretation of this Agreement, the parties shall refer such dispute in writing to an Arbitrator to be jointly agreed upon or, failing an agreement, to the State Code of Civil Procedure arbitration.

5.49 ATTORNEY'S AND OTHER FEES

Should either party institute any action to enforce this Agreement, or any provision hereof, the prevailing party in any such action or proceeding shall be entitled to receive from the other party all costs and expenses, including reasonable attorney's fees.

5.50 RECYCLED PRODUCTS

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

5.51 INCORPORATION OF FTA TERMS

All contractual provisions required by DOT, as set forth in FTA Circular 4220.1D, dated April 15, 1996, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any THE CITY OF LINCOLN requests, which would cause THE CITY OF LINCOLN to be in violation of the FTA terms and conditions.

PART 6

Technical Specifications

6.1 GENERAL

These Technical Specifications cover requirements for Heavy Duty Diesel Transit coaches which may be used for rural, suburban, and urban transit service operations on urban streets and rural roadways in the general environmental and climatic conditions prevailing throughout THE CITY OF LINCOLN operating area. It is intended for the widest possible spectrum of adult passengers, elderly, and the handicapped.

It is the intent of this specification to describe the design requirements for a Heavy Duty Diesel Transit coach rugged enough to withstand rigorous intensive daily transit service operations and provide maximum reliability and availability, with a minimum of maintenance and repair time. The coach shall exhibit maximum passenger appeal in appearance, comfort and safety, combined with excellence in reliability, operating characteristics, efficiency, and economy of operation.

The coach shall be fully compliant with the applicable requirements of the Americans with Disabilities Act (ADA) and any revisions published by the Architectural and Transportation Barriers Compliance Board or The Federal Transit Administration for fixed route operations. Where these specifications exceed the requirements of ADA, the specification requirement shall apply.

Included in this specification is the description for standard configuration low floor 35-foot heavy-duty transit coaches.

Low Floor Coach

Length:	35 feet
Width:	102 inches
Height:	114.5 inches
Seating Capacity:	32
Floor Height:	15.75 inches
Front Step Height:	15 inches
Head Room Maximum:	95 inches
Aisle Width Minimum:	25 inches
Wheel Base:	235 inches
Turning Radius (front body corner) maximum:	36.10 feet
Approach Angle:	9 degrees
Departure Angle:	9 degrees
Curb Weight Max. GVW:	27,000 lbs
Vehicle Weight Max. GVWR:	39,600 lbs

6.2 REQUIREMENTS

- a. Coaches are to be used in urban areas, but at the same time must be able to maintain speeds up to 65 MPH for relatively long distances between stops. Coaches shall be able to maintain a minimum of 7 MPH on a fifteen percent (15%) grade when loaded to GVWR.
- b. Coaches shall incorporate features essential for safe, fast, efficient and comfortable operation by the operator, features that ensure excellent road and traffic visibility under all driving conditions and adequate means for safe passenger movement. The coach shall be made capable of easy maneuvering in normal and heavy traffic.

6.3 MAINTENANCE AND INSPECTION

Scheduled maintenance tasks shall be related and shall be grouped in maximum mileage intervals. Routine scheduled maintenance actions, such as filter replacement and adjustments, shall not be required at intervals of less than 6,000 miles, except for routine daily service performed during the fueling operations. Higher levels of scheduled maintenance tasks shall occur at even multiples of mileages for lower level tasks.

6.4 OPERATING ENVIRONMENT

The coach shall achieve normal operation in the environmental conditions normally occurring in the area in which THE CITY OF LINCOLN is located in temperature ranges of -10° F to 120° F, at relative humidities between 5 percent and 100 percent, and at altitudes up to 5,000 feet above sea level.

6.5 CONFORMITY

- a. All bidders must conform to these specifications and the product they furnish shall be of first-class quality and the workmanship shall be the best obtainable in various trades. The design of the body, chassis and equipment which the manufacturer proposes to furnish shall be such as to produce a coach of substantial and durable construction in all respects.
- b. No advantage shall be taken by the manufacturer in the omission of any part or detail which goes to make the coach complete and ready for service, even though such parts or detail are not mentioned in these specifications.
- c. All units or parts not specified shall be manufacturer's standard units. In all cases, material must be furnished as specified, but if the term, "approved equal" is used, THE CITY OF LINCOLN must approve any material or equipment substitute for specified material or equipment.

6.6 RESPONSIBILITY

Coach manufacturer shall assume responsibility for all material and accessories in the coach, whether the same are made by coach manufacturer or purchased ready-made from an outside source.

General Testing

- a. The vehicle provided shall be fully tested to assure compliance with the performance and safety requirements of the specifications. At the option of THE CITY OF LINCOLN, Bidder and/or CONTRACTOR may be required to provide test results and/or certifications insuring compliance with the requirements of the specifications. Certifications or written documentation outlining test procedures and results shall be prepared by a Professional Engineer and/or test laboratory certifying compliance with the requirements of the appropriate section of the technical specification and shall be provided by the Bidder and/or CONTRACTOR for approval by THE CITY OF LINCOLN.
- b. CONTRACTOR may be required to demonstrate compliance with any of the performance requirements of the technical specifications. Minimum testing that shall be required includes;
 - Cooling System Performance
 - AC Performance
 - Acceleration
 - Gradability
 - Internal Noise
 - External Noise
 - Passenger Door(s) Opening and Closing Speeds
 - Lighting Levels
 - Turning Radius
 - Water Test

6.7 INTERNAL NOISE

- a. Maximum internal noise shall not exceed eighty (80) DBA in areas "1", "2", and "3", and no more than eighty-three (83) DBA in area "4" as described below. Sound levels within the coach shall be measured with all doors and windows closed and all vehicle equipment operating. If some equipment operates on a cyclic basis, the sound level shall be measured with all equipment functioning simultaneously to determine the worst case noise level.
- b. Measurements shall be made with the vehicle empty, except for test personnel and equipment. Not more than three (3) persons shall occupy the vehicle during the measurements.
- c. Measurements shall be made at a height of four feet (4') above the floor and directly above the center line of the seats at the following locations:
 1. The operator's seat;
 2. The foremost passenger seat at the centerline of the coach;
 3. The seat nearest the center of the coach, and at the coach centerline; and
 4. The rear-most seat at the centerline of the coach.
- d. Accelerate the coach at full throttle from standstill to automatic transmission shift speed. Gear or range must be selected so that terminating test speed is sixty-five (65) miles per hour.

Observe and record maximum sound level during this operating mode. The sound level recorded shall be the average of at least four (4) readings.

- e. Measurements shall be taken where there are no reflecting or absorbing surfaces to change the sounds emitting from the vehicle.

6.8 EXTERNAL NOISE

Airborne noise generated by the coach and measured from either side shall not exceed 83 DBA under full power acceleration when operated at or below 35 mph at curb weight and just prior to transmission upshift. The maximum noise level generated by the coach pulling away from a stop at full power shall not exceed 83 DBA. The coach generated noise at curb idle shall not exceed 65 DBA. If the noise contains an audible discrete frequency, a penalty of 5 DBA shall be added to the sound level measured. All noise readings shall be taken 50 feet from the perpendicular to the centerline of the coach with all accessories operating. Instrumentation, test sites, and other general requirements shall be in accordance with SAE Standard J366. The pull-away test shall begin with the front bumper even with the microphone. The curb idle test shall be conducted with the rear bumper even with the microphone.

6.9 CRASHWORTHINESS

- a. The coach body and roof structure shall withstand a static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a 6 inch reduction in any interior dimension. Windows shall remain in place and shall not open under such a load.
- b. The coach shall withstand a 25 mph impact by a 4,000 pound post-1973 American automobile at any point, excluding doorways, along either side of the coach with no more than 3 inches of permanent structural deformation at seated passenger hip height. This impact shall not result in sharp edges or protrusions in the coach interior.
- c. Exterior panels below the rubrail and their supporting members shall withstand a static load of 2,000 pounds applied perpendicular to the coach anywhere below the rubrail (on standard floor coach only) by a pad no larger than 5 inches square. This load shall not result in deformation that prevents installation of new exterior panels to restore the original appearance of the coach.
- d. The coach, at GVWR and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, windows, or other mechanical elements. Static conditions include the vehicle at rest with any one wheel or dual set of wheels on a 6 inch curb or in a 6 inch deep hole.
- e. All structure, body, and panel-bending mode frequencies, including vertical, lateral, and torsional modes, shall be sufficiently removed from all primary excitation frequencies to minimize audible, visible, or sensible resonant vibrations during normal service.
- f. The standard floor bus rubrails shall be capable of withstanding impacts of 200 foot pounds of energy from a steel faced spherical missile no less than 9 inches in diameter and of a 500 pound load applied anywhere along their length by a rigid plate 1 foot in length, wider than the rubrail and with 1 inch end radii with no visible damage to the rubrail, retainer, or supporting structure. A damaged portion of the rubrail shall be replaceable without requiring removal or replacement of the entire rubrail. The low floor bus do not require rubrails.

- g. To protect passengers seated in low floor area, the basic low floor coach structure shall incorporate a substantial side impact barrier. The barrier shall include steel plate, continuous between the front wheel arches and the rear suspension (except in the width of the exit door opening).
- h. The impact barrier shall be an integral welded part of the undercarriage portion of the coach structure, and shall be angled such that vehicles impacting the coach side will tend to subvert.
- i. To further increase both passenger safety and repairability, robust welded structures are required between the angled barrier and the coach side skins. These shall be designed to dissipate collision energy.

6.10 MATERIAL

- a. All materials used in construction of the coach and all its parts shall conform in all respects to American Society of Testing Materials, Society of Automotive Engineers, or similar association standards. Materials used shall be exactly duplicate in manufacture, design and construction on each coach model.
- b. Reinforced fiberglass and plastic materials shall be excluded from the basic body construction, except for replaceable panels, doors, and front and rear caps.
- c. All lumber shall be thoroughly kiln dried free from knots and checks and shall be of clear straight grain, dressed on all sides.
- d. All painted aluminum sheets shall be thoroughly cleaned and coated on the outside with PPG DPU Low VOC primer, or approved equal, prior to assembly in coach.
- e. All joints shall be protected by application of PPG DPU Low VOC primer, Butyl Tape Sealer, or approved equal, at assembly.
- f. Plywood shall be of a marine grade with sealed waterproof edges.
- g. All bolts, nuts, washers and exposed linkage shall be zinc, cadmium plated or phosphate coated to prevent corrosion.
- h. All bolts, nuts, and washers shall be Domestic manufacture and be SAE Grade 5 or better.

6.11 CORROSION

- a. The vehicle shall resist corrosion from atmospheric conditions and road salts. It shall maintain structural integrity and nearly maintain original appearance throughout its service life, provided it is maintained in accordance with the procedures specified in the manufacturer's service manual by THE CITY OF LINCOLN. Materials exposed to the elements and all joints and connections of dissimilar metals (and remote from each other in the galvanic series), shall be corrosion-resistant and shall be protected from galvanic corrosion.
- b. The entire body frame assembly, access doors, fenders, cab, underbody, wheel housings, lower skirt panels, including closed-off body panel sections, the interior of tubing structure

and all welds shall be treated and rust-proofed with a commercial grade heavy-duty rust-proofing material. All metal body parts shall be given a thorough multiple-stage anti-corrosion treatment. The product used shall be listed as a qualified product under Mil Spec C-62218, Mil Spec C-0083933A (MR). Zinc chromate or zinc phosphate prime paint shall be applied to both aluminum and steel. Body panels that are one-side galvanized, two-side galvanized, two-side iron-zinc alloy, zincrometal, aluminum or tin coated, etc., or treated in any other method or procedure currently accepted by the commercial vehicle industry, are acknowledged as meeting this requirement and need no further treatment, except for finish prime/paint or undercoating where applicable. Representative samples shall withstand a 2-week salt spray test in accordance with ASTM Procedure B-117 with no visual or structural detrimental effects to normally visible surfaces, and no significant structural degradation or weight loss of over 1 percent for other members or components.

6.12 UNDERCOATING

- a. Except as noted below, the entire body lower frame assembly, cab, underbody, understructure/frame, chassis, fenders, wheel housings, and lower skirt panels shall be completely undercoated.
- b. Undercoating shall be PPG Corashield 7972 material. Undercoating shall be applied to a uniform thickness throughout with no bare spots. Bidder shall indicate methods to be used in meeting this requirement.
- c. Items and components that shall not be undercoated include non-metallic fender and stepwells, engine, transmission, driveshaft(s), differential/axle housing, brakes, lube fittings, exhaust system, and power steering heat shields.

6.13 AXLES

Both front and rear axles shall have the load rating for the gross loads equal to or greater than the coach builder requires them to carry. The gross load shall include curb weight plus seated and standee passengers with the average weight of each passenger to be 150 pounds. Front and rear axles for the coaches shall have the highest GVWR capacity available. Front and rear hubs shall be of steel construction.

Front Axle

Type

- a. Front axle shall be designed with proper wheel and axle geometry so that imperfect front axle operation will not be encountered in service.
- b. Front axle shall be 14,600 lbs., minimum rating.
- c. Wheel bearings shall utilize "wet" lubrication.

Rear Axle

Type

- a. Rear axle shall have minimum rated capacity of 26,000 lbs.
- b. The rear axle shall be a heavy-duty, full floating type, Meritor Standard, or approved equal, incorporating a spiral bevel drive. The axle housing shall be a steel stamping and located to the roadside of the axle center. End tubes shall be removable and shall be threaded to allow for adjustment of wheel bearing nuts. The housing drain plug shall be magnetic.
- c. The differential carrier shall incorporate the differential assembly, drive pinion and pinion cage. Carrier shall be removable as a complete unit from the axle housing.
- d. The four (4) pinion differential gears shall be carried in a two-piece case mounted on tapered roller bearings. Torque nuts and bolts are used to mount the dowel gear drive to the flanged half of the differential case.
- e. Axle shafts shall be the floating type with all wheel bearing loads carried on the axle housing end sleeves.
- f. The drive flanges at the outer end shall be attached to hub-piloted wheels.
- g. Wheel bearings shall utilize "wet" lubrication.

Rear Axle Gear Ratio

The differential gear ratio is subject to approval by THE CITY OF LINCOLN prior to production after reviewing performance computer generated models.

Hubodometer

An Engler Hubodometer "million mile" (no tenths), or approved equal shall be installed, with the correct bracket, on curbside rear axle flange studs.

6.14 BRAKES

General

Each coach must be equipped with both service and emergency brakes.

Brake Chambers

Brake chambers shall be Anchorlok or MGM type 30 with protective boot over the push rod, or approved equal.

Brake chambers shall be equipped with manufacturer's standard diaphragm and spring. Brake system shall be balanced to provide safe stop operation.

Service Brakes

- a. Coaches shall be equipped with brake systems which conform to the requirements of all Federal and State regulations, designed so such conformance can be maintained throughout the normal adjustment cycle. A supplemental brake (transmission retarder) shall also be provided. The supplemental braking shall not be used in meeting regulatory criteria. The braking system shall include service brakes, a parking and emergency brake.
- b. Service air brakes shall be furnished on all wheels of each coach. The brake system shall be approved by THE CITY OF LINCOLN.
- c. **Control** - The driver's brake pedal shall control the service brake and the supplemental brake in a coordinated manner to give a total braking effort depending on the position of the pedal up to the maximum capability of the braking system. The control shall make maximum practical use of the supplemental brake to minimize brake fade and to achieve maximum brake lining lifetimes. Braking forces shall be proportioned among the axles to assure balanced braking and equalize lining life between axles. Braking shall be initiated at the second axle.
- d. Brake lights shall be activated as soon as the brake pedal is depressed and when any auxiliary braking (transmission retarder) is applied.
- e. **Brake Drums, Shoes and Linings** - Rear brake drums shall be a minimum of 14.5 by 10 inches (368 by 254 mm). Front brake drums shall be a minimum of 14.5 by 6 inches (368 by 152 mm). Brake shoes shall be of two shoe type, heavy duty, fabricated steel, heavily ribbed to insure uniform pressure. Linings shall be non-asbestos. A method of visually indicating wear of the brake lining shall be provided. 'S'-cam brakes shall be supplied. Drums shall be labeled with the maximum safe diameter for drum refinishing. Other brake configurations, such as disc brakes may be supplied with the prior approval of THE CITY OF LINCOLN.
- f. **Brake Adjustment** - Brakes shall be provided with "Haldex" or approved equal automatic slack adjusters. All slack adjusters shall be removable without disassembly or removal of other components. Slack adjuster travel and geometry shall be designed not to exceed 90 degrees in relation to the pushrod, when properly adjusted, throughout the lining life.
- g. **Brake Hoses** - Brake hoses shall be installed in locations where the possibility of damage is minimized. Hoses shall be clamped and supported by the coach structure to minimize long unsupported hose lengths and to eliminate rubbing and/or chafing.

Emergency Brake

Coach shall be equipped with spring brakes Anchorlok #3030 or MGM #E3030T, with quick release yoke or manual "wind-off", or approved equal, capable of bringing the coach to a stop from a speed of twenty (20) miles per hour at a deceleration rate equivalent to a stop within sixty feet (60') with a seated passenger load. Brake valve to be PP-1 40 PSI setting.

Slack Adjusters

Automatic slack adjusters, as manufactured by Halidex, or approved equal, shall be furnished on front and rear brakes. Adjusting bolt and lock shall be positioned so adjustment can be made easily.

Brake Retarder

- a. Transmission shall have an integral brake retarder.
- b. Retarder ON-OFF Toggle switch shall be mounted inside the electrical junction box above the driver.

6.15 AIR SYSTEM

Air Compressor

- a. Air compressor shall be a Cummins, or approved equal, with capacity of 18.7 cfm minimum.
- b. Compressor shall be gear driven by the engine.

Air Governor

Air Governor shall be Bendix-Westinghouse "D-2" type, or approved equal.

Air Tanks

Air reservoirs shall be of adequate capacity for supplying the air volume needs of the coach. First tank shall be equipped with a Bendix #800691 PUROGUARD System filter and an automatic air dryer Bendix high volume standard SAEJ10 AD9, or approved equal, and shall operate in conjunction with the air governor or relay valve. All air tanks shall be equipped with drain valves.

- a. There shall be low-air pressure switches located on the air tanks. They shall monitor the primary and secondary reservoir air pressure.
- b. In combination with the visual and audible signals, there shall be single, dual needle air pressure gauge reading the pressures of the primary (rear brake) and secondary (front brake) reservoirs.

Brake Lines Body Mounted

- a. All air lines shall be synflex nylon tubing, color coded or approved equal. Lines shall be securely mounted to frame to prevent chafing or wear. Clamps shall be of proper size. Lines shall be protected at clamps with heat resistant material.
- b. The main air line between the air compressor and first air tank shall be minimum three-fourths inch (3/4") I.D.

- c. Rubber grommets shall be used at all points where air lines pass through bulkheads or any supports.
- d. All air lines shall be protected to prevent freezing in cold weather.
- e. All clamps, fittings, etc., must be easily accessible and installed in such a manner that they are easily removed and replaced.

Brake Lines at Wheel

Flexible brake lines shall be Parker 293, with nut and sleeve type fittings. They shall be of adequate length to prevent any strain, regardless of relative motion between brake valve and brake chamber, without allowing chafing or rubbing.

Brake Relay Valve

A brake relay valve shall be provided. It shall be Bendix-Westinghouse R-12, or approved equal.

Check Valve

A check valve shall be provided between #1 and #2 tanks, adjacent to the second tank, and accessible for service.

Discharge Line

Discharge line to first tank shall be #12, three-fourths inch (3/4") O.D. Teflon hose with braided stainless steel jacket and shall be properly supported every two feet to prevent chafing or damage and so assembled that the line will be free of sharp bends, and will drain all moisture into the reservoir. Discharge line on the low floor bus shall be a #16 hose.

Emergency Brake Control Valve

The control valve shall be located to the left and adjacent to the driver for safe, convenient access. The valve shall be a Bendix Westinghouse type PP1, with 40 PSI setting, or approved equal.

Interlock Valves, Door, Accelerator and Brake

Door, accelerator and rear brake interlock valves shall be mounted to minimize length of air lines.

Towing-Air Line Connector

An air line connector (ARO Style Milton #777) shall be installed on the front end of the coach.

Switch, Low Air Pressure

The switches shall be connected in parallel and shall trigger a red indicator "LOW AIR" light and an audible alarm when the air pressure of any reservoir is below 90 p.s.i.

6.16 COOLING

Radiator

The radiator shall be of durable corrosion resistant construction with bolted-on removable stainless steel tanks. Radiator core shall be copper dimple type clog resistant. Radiator piping shall be stainless steel or brass tubing, and, if practicable, rubber hoses shall be eliminated. Necessary hoses shall be premium silicone rubber type that are impervious to all coach fluids.

Filler Neck and Cap

- a. The sealed cooling system shall be provided with self-unloading valve to prevent extreme pressure from injuring cooling system.
- b. A manual pressure release valve shall also be provided.

Surge Tank

Heavy-duty copper, brass (stress relieved), or stainless steel radiator surge tank shall be provided and mounted above the radiator and easily accessible for service. Sight glass shall be provided to allow check of fluid level without opening system. Filler cap shall be hinged type.

Water Pump

Water pump shall have sufficient capacity to prevent any hot spots under all operating conditions.

Fan and Drive

A thermostatically controlled fan with six (6) blades shall be provided and shall be effectively power-driven only at engine temperatures in excess of one hundred eighty degrees (180 degrees). The fan to be hydraulically driven.

Hose

Engine water and heater hoses shall be premium quality Armet or Flex-Fab silicon hose. All hoses shall be protected from engine heat which may cause premature failure.

Hose Clamps

All hose clamps shall have constant tension. Hose clamps shall be 1/2 inch wide minimum, stainless steel worm type, socket tightened with collar. Breeze or approved equal.

Coolant

Coolant shall be "Final Charge" produced by "Old World Industries", or approved equal. Coolant shall be 40% ethylene-glycol.

6.17 ELECTRICAL

Compliance with Regulations

Turn signals and all interior and exterior lights shall meet all State and Federal requirements.

Alternator and Regulator

The alternator shall be sized to supply the entire nighttime operating electrical load of the coach while providing at least 20 percent of its current output for battery charging when the battery is fully discharged. The alternator shall be a Delco 50DN oil cooled belt drive rated at 300 amps, or approved equal with an external electronic voltage regulator.

Backup Alarm

An electrical backup alarm producing an intermittent sound or a buzzer connected with backup lights shall be furnished. It shall be loud enough to be heard when the engine is running, yet not be too loud to annoy persons in their homes.

Battery

The term battery means two or more heavy duty top quality lead acid battery units mounted side by side in a battery compartment. Batteries shall be by "Decca" or approved equal. The configuration for the battery is two battery units size 8D, 12 volt, 6 cell and 31 plates per cell. These battery units shall measure approximately 19.50 long by 10.75 inches wide by 8.75 inches high (495 by 273 mm by 222 mm high). Battery units shall have polypropylene cases and end-over terminals not exceeding 2 inches (51 mm) out from battery case. For ease in handling, no single battery unit shall exceed 155 pounds (70 kg). Batteries shall be stamped with the date of manufacture. Batteries shall not be abused or quick-charged before delivery. Batteries shall be new when the coach is delivered to THE CITY OF LINCOLN.

Despite the battery configuration stated above, the Contractor shall be responsible for analysis of the loads and selecting a battery of adequate capacity to supply them. Other battery configurations may be used with the prior approval of THE CITY OF LINCOLN.

Battery Terminals/Wiring

The battery wiring shall be terminated with properly sized ring terminals. The cable shall be permanently marked with a "+" and "-" at the battery end. Cable s shall be extra flexible and routed in the battery box so as not to chafe or rub on the battery tray and other components. Cable ends shall be sealed to eliminate corrosion from battery acid and/or fumes. Cable ends shall be attached to the battery studs with non corroding flat washers, spring washers and brass nuts. The positive battery terminal shall be a 1/2 NC stud and the negative terminal shall be a 3/8 NC stud. Stud length shall be 1 inch (25 mm) as measured from the terminal face. Cable ends will be coated with a corrosion inhibitor after being attached to the batteries.

Electrical Panel

Circuit breakers shall be provided to sectionalize and protect all branch circuits of the electrical system of each coach.

To the maximum practical extent, electrical distribution and control devices shall be grouped on an electrical panel arranged for ease of access, test, and replacement of components. The panel shall be large enough to avoid crowding of the components and leads. Component heat build-up shall not affect the components or mounting locations. There shall be a test plug receptacle for electronically diagnosing the engine using portable instruments.

A durable diagram shall be mounted, in the electrical panel, that identifies the components and their function. Relays and circuit breakers shall be permanently labeled to correspond to this diagram. Switch controlled lights shall be provided to illuminate the main electrical panel.

Multi-Plex System Electrical, Dinex-MPX

The main coach controller (MBC) shall be located at the front left-hand corner and readily accessible through an access door located above the driver's side window. One or more high speed cell net controller (HCNC) shall be located in the same compartment. Additional HCNC's will be located above the exit door and at the rear of the coach. DIO's (Digital Input/Output Controllers) are to be similarly located, and will provide minimum 10% spare input/output capacity. The system shall be connected by a "ring loop" hookup.

Electrical Main Switch

An electrical main switch shall be provided to positively disconnect the battery from electrical loads when the coach is not in use or in emergency situations. The switch shall be located in an outside compartment which requires no tool(s) for access. The switch shall be totally sealed in its own sub-compartment. It is preferred that the switch handle be non-removable. If the switch handle is removable, it shall be attached to the switch housing using a small corrosion proof metal cable. Emergency flasher and radio power circuitry shall be independent of the main switch.

Main Switch Circuit Breaker

A manually reset circuit breaker capable of interrupting a major short circuit shall be supplied on the positive side of the batteries. The breaker shall be located near the batteries in an easily accessible location, sealed from water and battery fumes.

Battery Jumper Terminals

There shall be a set of battery jumper terminals located next to the battery electrical main switch and a set located in an easily accessible location in the engine compartment. These connectors shall be Anderson Model 350 (Red) or approved equal. The positive terminal shall be red in color and the negative terminal shall be black. The metal housing face where the terminals are attached shall be permanently marked "+" and "-" by etched metal.

Fare Equipment Power Supply

Supply a coil of wire with GFI CENTSaBILL plug, through floor mounting hole for farebox wiring, powered by a dedicated circuit for later hookup of farebox power by THE CITY OF LINCOLN.

Radio Power Supply

A separate electrical circuit, initiated at the batteries and terminating at the radio box shall be supplied. This circuit shall be independent of the electrical main switch, be capable of delivering 25 continuous amperes at 12 volts and be protected at the source with an adequate circuit breaker. No other electrical equipment shall be attached to this circuit. It shall be connected and placed to minimize electrical noise, hash and transients. If a 24 volt coach electrical system is used for the coach, an "Electric Transit Laboratories Inc. (ETL)" or approved equal converter shall be provided in the radio box to supply 12 volt power to the radio. Interface to PA system required.

Starter

The engine starter shall operate from normal coach voltage and be sized to provide sufficient torque to turn the engine reliably under all hot or cold engine or ambient temperature conditions. The starter shall be a heavy duty "Delco Products Division" Model 42MT or approved equal as recommended by the engine manufacturer.

The starter solenoid switch shall be interlocked so that:

- Engine can be started in neutral gear only with the transmission selector in neutral only.
- Starter will not operate when engine is running. The interlock shall be activated by fuel pressure or by other approved means.
- Other major electrical loads shall be disconnected while cranking.

Low Voltage Wiring

All wiring including cables shall be stranded copper, adequate in size to carry the electrical load. Each harness shall contain identified spare wires (10 percent, minimum one) and shall be installed with consideration of possible future need to remove and replace it. All low voltage lighting shall run sufficiently cool so as to eliminate any damage to lamps, lenses, sockets, wiring or surrounding areas. Electrical junction boxes shall have sealed covers and openings.

Insulation

Wiring shall be insulated with two-layer cross-link polyethylene. Insulation must be moisture proof and heat resistant. It shall be a design objective to route wiring and harnesses in areas with no temperature build-up. If wiring must be run in areas of heat build-up, it must withstand, without deterioration for the life of the coach, the highest temperature in the area served. Engine compartment wiring shall be heat, oil and flame resistant.

Voltage Drop

There shall be no more than a 0.5 volt cumulative drop on any circuit, measured from the initiating source to the appliance load positive and from the appliance load negative to the reference ground with the load fully operational.

The initiating source for any 24 volt circuit is defined as the 24 volt output positive post of the series connected batteries.

The initiating source for any 12 volt circuit is defined as the 12 volt output positive post of the battery equalizer/splitter (Vanner).

The reference ground is defined as the most negative post of the series connected batteries.

Protection and Support

Wiring shall be protected from weather and mechanical injury. Cables should be supported along their length and strain-relieved near terminations so that connectors and terminals are not under stress. Wire and cable passing through holes in sheet metal, structural members, etc. shall be protected with a grommet or other approved device. Wire and cable subject to flexing shall be extra flexible and shall be installed to allow for continual flexing without damage to the conductors or insulation. Wiring routed next to or bent over other materials shall be chafe protected by approved means.

All under coach looms, cable runs, connectors, terminations and harnesses should be totally sealed to dirt, water and road hazards. Under coach wiring shall be run in sealed flexible plastic conduit.

Terminations

All electrical connectors shall be replaceable. Engine and transmission harnesses shall have sealed, quick disconnect connectors to facilitate engine and transmission removal. All high current connection points shall be coated with approved conductive coating.

All wire termination loops shall have a minimum of 2 inches (51 mm) excess wire for additional end terminal installation which will allow at least one replacement of the termination without disrupting the wiring harness. Wires shall not be spliced between terminations.

Cable terminations shall be pressure-type terminals applied with a full cycle correct tool of the same manufacturer as the terminal. All terminals shall be full-ring, interlocking or tongue-type sized for the terminal screw or stud.

All under coach connectors shall be of a locking type. Use of spade terminals shall be with StarTran approval only. Connector terminals shall be coated with approved dielectric grease. Drip loops shall be supplied on all under coach termination points.

All electronics components and boxes shall have quick disconnect plugs attached. Hard wiring to these boxes is prohibited.

Wire Numbering

The conductor identification shall be developed by the Contractor to give an individual identifying designation to each wire for circuit tracing and renewal of equipment and shall be shown on all electrical diagrams. All junction panel terminals shall be numbered.

All wiring shall be identified with hot stamped, machine printed wiring numbers printed on the insulation itself with no more than 6 inches (153 mm) of space between the identifying printed numbers along the continuous run of wire.

Wire markers and/or any type of heat shrink shall not cover any termination point or crimped lug without StarTran approval.

Numbers shall not be removable by and be impervious to normal abrasion, oils, diesel, grease, Anti-Freeze and water

Console Assembly and Instrument Panel

- a. Side Console Assembly shall contain the following switches, all of which shall have lighted legends.
 - Master Switch: 4-position rotary switch identified with lighted legend "Engine Stop," "Run," "Night" and "Park" marked on the panel, in accordance with FMVSS requirements.
 - Engine Start: Push-button switch, marked "Start."
 - Hazard Warning: 2-position On-Off toggle switch with lighted hazard symbol. Legend to be "Hazard" or symbol.
 - Defroster: 3-position toggle switch having "Low-Off-High" positions. Legend to be "Defroster."
 - Chime Switch: 2-position toggle switch having "On-Off" positions with legend "Chime."
 - Fluorescent Light Switch: 3-position toggle switch having "All-Off-Rear" positions with legend "Interior Lights."
 - Door control handle.
- h. Instrument Panel shall be manufacturer's standard for heavy-duty service, with clear lettering for identification and shall house the following controls:
 - Panel light dimmer: A rotary rheostat, labeled "Panel Lights," which controls the intensity of the panel and legend lights.
 - Wiper control: An air control for each side, with lighted legend "Wiper," which controls the windshield wipers.
 - The instrument panel shall contain, at a minimum, the following indicator lights:

Left Turn Signal	Exit Door Open
Right Turn Signal	Charging Failure
Hot Engine	Brakes On
Low Engine Oil Pressure	High Beam Headlights
Low Air Pressure	Door Unlock Function
Fire Warning	Retarder

- l. Indicator lights shall be arranged across the top of the instrument panel.
- m. Turn signal switches shall be located on the floor near the driver's left foot and shall be constructed with polarized multi-connector plugs.
- n. The instrument panel shall house the following monitor devices:
 - i. A dual-needle gauge that monitors air pressure in the front and rear brake reservoirs.
 - ii. Speedometer: A speedometer with MPH as major markings, 0-80 MPH.

Door Electrical

- a. Rear door shall be passenger actuated, manual.
- b. Locking and unlocking of doors shall be controlled by a door-control handle located on the driver's console. Door control handle, when in the "rear" position, shall energize a solenoid that unlocks the door. A LED green lamp, which indicates that door is openable, shall be located above rear door. A red "EXIT DOOR OPEN" indicator lamp on driver's panel shall illuminate simultaneously with green lamp while door is open. A lamp mounted on the exterior, or door header above the front and the rear doors, shall be illuminated when the door is openable. Front and rear stepwell illumination lamps shall operate the same way. Lamps to be controlled by the master switch in the "Run" or "Night" position.

Engine Compartment and Rear Control Box

- a. The engine compartment shall have a rear control box with engine oil pressure and water temperature gauges. Gauges shall be mechanical.
- b. The control box shall be located in the upper right corner of the engine compartment.
- c. Four (4) 21 c.p. incandescent lamps shall be installed in the engine compartment in locations which will provide maximum illumination for the mechanics.
- d. The engine and coach control switches on the face of the panel shall be as follows:
 - i. Starter Switch - Three position toggle switch, marked "Front-Off-Rear" for selection of engine start position. Must be weatherproof.
 - ii. Light Switch - Two position toggle switch marked "Engine Compartment Lights." Must be weatherproof.
 - iii. Engine Start - Push button switch marked "Start," with waterproof rubber cover, shall operate the starter motor only when the starter switch is in the "Rear" position and transmission is in neutral. The engine transmission down link port shall be provided. Throttle control must be variable speed.

Horn

Dual electric horns mounted so as to be protected from road splash. Control shall be push button, located in center of steering wheel.

Exterior Lighting

- a. Exterior lighting shall conform to FMVSS requirements.
- b. Headlamps shall be guide lamp, rectangular sealed beam, dual, 12 volt Halogen H50 54. Headlights shall be switched on with ignition switch. A dimmer switch shall be mounted on the floor between and above the turn signal switches. The instrument panel shall have a high beam indicator lamp. Vehicles shall be equipped with daytime running headlamps.
- c. Clearance, Marker and I.D. Lights
All clearance and I.D. lights shall be Dialight surface or flush mount LED type. The units shall protrude not more than 1.5 inches when mounted on the vehicle. If a surface mount marker design is used, a custom guard to prevent damage to the light during contact shall protect the marker. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a Packard Weather Pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process.
- d. Front directional signals shall have amber lenses and shall be located on the right and left front corner areas of the coach.
- e. Rear, tail, stop, backup and turn signal lamps shall be mounted on the right and left rear corner areas of the coach.
 - i. Third LED high mount brake light bar will be included.
 - ii. Top and third lamps (stop and tail) shall be red Dialight Series 40, or approved equal. The tail lights shall be fabricated with the use of a current regulator circuit to the LED's that allow for the operation of the device from 7 volts to 16 volts with constant intensity. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a Packard Weather Pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process. The entire LED assembly shall be specially coated to protect the light from chemical and abrasion degradation.

Flange Mounted 4" Round

In addition to the above, if flange mounted 4" round lamps are used, the flange shall be constructed in a manner that water intrusion will not be allowed between the lighted portion of the lamp flange.

- iii. Middle lamp (turn) shall be amber Dialight Series 40, or approved equal. The turn lights shall be fabricated with the use of a current regulator circuit to the LED's that allow for the operation of the device from 7 volts to 16 volts with constant intensity. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a Packard Weather Pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process. The entire LED assembly shall be specially coated to protect the light from chemical and abrasion degradation.

- iv. Bottom lamp (back-up lamp) shall be Grote No. C458, Weldon 3-2035-1100, or approved equal, with removable acrylic clear lens, replaceable 32 c.p. bulb number 1156, or approved equal.
- f. Side turn signal lamps shall be located on each side of the coach at the forward edge of the front wheel housing. The side signal lights shall be Dialight amber 18 Series lights. These lights shall be guarded for protection. The light shall be visible from the rear and front of the coach as well as outward. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a Packard Weather Pak connector. No interim connector shall be allowed on the body of the light. The same type side signal lamp shall be located slightly above and slightly forward of the rear wheel housing.
- g. Intermediate side marker lights shall be Dialight LED Series 84, or approved equal, one on each side of coach.
- h. License plate lamp shall be Arrow Safety Devices #437, K/D lamp #260-2388, or approved equal, with replaceable 4 c.p. bulbs #67, recessed in right lower quadrant of the engine compartment door.
- i. Curb lamps shall be positioned in manufacturer's standard location above the front and rear doors in such a manner as to illuminate the ground area in the immediate vicinity of the stepwell. Lamps shall be actuated when entrance door, exit door, or both, are opened.
- j. Directional lamps shall be equipped for simultaneous flashing for emergency use.

Interior Lighting

- a. Front stepwell shall be lighted by stepwell light, suitably mounted, so that entire stepwell and a portion of the ground area immediately outside the coach is illuminated.
- b. An overhead fluorescent lighting system, Transmatic or approved equal, shall provide general illumination in the passenger compartment and shall be controlled independent of the run switch. The system shall provide a minimum of 25 foot-candles of illuminance on a one square foot plane, centered 33 inches above the floor and 24 inches in front of the seat back at each seating position. The floor surface in the vestibule shall be illuminated at a minimum of 4 foot-candles with the front door open and a minimum of 2 foot-candles with the front door closed. Power consumption from the lamps shall not exceed 9.5 watts per linear foot of fixture length. Fluorescent light fixtures shall be located above the side windows at or near the juncture of the coach ceiling and the side wall and may be provided over the rear door. The fixture lenses shall have a cover with louvers or baffles to reduce glare in the windshield which affects driver visibility. Advertising media located in this area shall be illuminated by direct lighting, although the interior lighting requirements shall be attained without advertising media installed. The lighting system materials shall comply with the Federal Transit Administration Docket 90-A Specification.
- c. Interior advertisement racks shall be reinforced by use of structural members attached directly to the coach structure. The advertisement racks shall be hinged to provide access to the air plenum at every fixture location without removing the fixture from the coach structure. The card racks shall be retained in the closed position by use of threaded closing screws. The card racks shall be self-retained in the open position to allow maintenance accessibility. The fixture shall be enclosed to inhibit the accumulation of dust and insects. The fixture lens cover shall be hinged to provide access to the fluorescent lamps, ballast and wiring interconnects, without

removing the fixture from the coach structure. The lens cover shall be retained in the closed position by use of threaded closing screws. The fluorescent lamp ballast shall be a direct plug-in type, with integral electrical connector, and no exposed wires. the ballast shall be accessible without removing the lamps. The fluorescent lamps shall be the bi-pin type and shall be supported around the lamp base, not exclusively by the lamp pins. Wiring to the input connector and to the lamps shall be continuous, without splices or secondary connections. The wiring to the lamps shall be contained in a wiring trough. Interchangeability of lamps, lenses fixtures, and power supplies shall be maximized.

- d. The fluorescent lights shall be powered by a DC power supply. The ballast shall be an unpotted and repairable unit. The ballast shall meet FCC Part 18 Class A regulation for EMI conducted and radiated emissions. the ballast shall contain reverse polarity protection. A green LED indicator shall be provided for output verification which shall be viewable with the lens cover in the open position. The ballast shall contain a case mounted fuse for current overload along with proper thermal protection. The ballast shall be warranted for five years of normal use without failure. Each ballast shall power 2 fluorescent tubes.
- e. Lighting intensity for all cross seats, forward of the rear longitudinal seats, shall have a minimum average of fifteen (15) foot candles, with a minimum of twelve (12) foot candles at the seated passenger reading plane, that plane being thirty-three inches (33") above the floor on a forty-five (45) degree angle. An effective level of lighting shall also be provided for all other seated passengers.
- f. The lighting components shall be so located and constructed to prevent the entrance of water, contaminants and insects.
- g. Each fixture shall have an individual power supply.
- h. Lights shall operate without the engine running.
- i. Driver's light shall be Xantech Model 727, or approved equal. Light to be recess-mounted in the top of the window frame above driver's head. Do not impair use by location conflict with sun visor. Switch to be located on the bezel of the lamp.

Passenger Chime Signal

A chime operated by bell cords, running the length of both sides of the coach, shall be provided. Illuminated "STOP REQUESTED" sign, mounted above the destination sign access door and on the low floor air tank enclosure so as to be visible to all passengers, with automatic chime muting, shall be provided.

Transmission Electrical

- a. There shall be an electric shifter compatible with transmission located on left side console.
- b. Transmission engine interlock switch so coach cannot be shut off while in gear.
- c. A waterproof back-up light switch shall be provided on the transmission to energize the back-up lights and de-energize the interior lights with transmission in reverse and master switch in the "RUN" or "NIGHT" position.

- d. A starter lockout switch shall be provided that shall sense transmission gear changes. Starter motor shall be energized only with the transmission in the neutral position.

Radio

Provisions for a two way radio system and wiring shall be provided.

- a. A compartment shall be provided to accommodate the system. The radio box shall be located on inside of the coach within five (5) feet of the driver's seat. It's position shall be convenient for servicing. The compartment shall include a clear space thirty-three inches (33") high, twenty-three inches (23") wide, and twenty inches (20") deep for the radio. Two nineteen inch (19") wide and sixteen inches (16") deep sliding tray shall be provided. The box and conduit shall be waterproof when the service door is closed and the door shall incorporate a keyed latch.
- b. A positive/negative dedicated and isolated power source with a minimum capacity of 30 amps/12 volts, using ten (10) wire shall be provided. The radio circuit shall be wired so that the radio is on when the master run switch is not in the off position.
- c. Two antenna reinforcement and ground plane plates, twelve inches x twelve inches x one-eighth inch (12" x 12" x 1/8") shall be mounted at locations on the roof body panel at approximately the coach center line.
- d. Contractor shall provide and install a low profile Larsen Mirage NMO, or approved equal. One antenna shall be mounted approximately four feet (4') to the rear from the front of the coach for GPS. The second antenna shall be located 15 feet (15') to the rear of the forward antenna for radio. The antennae locations shall have access plates in the interior roof panel below the reinforcement for access to the antenna cables.
- e. Contractor shall provide and install type RG 58 coaxial cable from the radio box to each antenna location.
- f. Contractor shall provide any required voltage converters and RF filters necessary to make the radio operate.
- g. Contractor to provide necessary noise suppression to prevent interference from alternator, fluorescent lighting and other sources.
- h. AM/FM stereo with four (4) channels and minimum 100 watt output or approved equal. AM/FM will interface with coach PA system and two way radio system.

6.18 GENERAL

The powerplant shall be arranged so that accessibility for all routine maintenance is assured. No special tools, other than dollies and hoists, shall be required to remove the powerplant. Two mechanics shall be able to remove, replace, and prepare the engine and transmission assembly for service in less than 20 total combined man hours. The muffler, exhaust system, air cleaner, air compressor, starter, alternator, radiator, all accessories, and any other component requiring service or replacement shall also be easily removable independent of the engine and transmission removal.

6.19 ENGINE

Type

- a. Coach shall be powered by a Cummins ISL heavy-duty diesel engine, with a minimum 280BHP, 2200 RPM peak torque of 900 foot lbs., 1300 RPM, or approved equal.
- b. Power plant shall be a complete unit, mountable and demountable unit.
- c. Engine shall meet all applicable Federal and State clean air standards as they pertain to diesel engines.

Installation

The rear mounts for the engine shall be attached to engine bell housing.

Oil Filter

A full-flow Fleetguard spin-on filter mounted to the engine, or approved equal.

Air Cleaner

The air cleaner shall be a dry type with a dry type in-line separator with broad band attenuation centered about 250 hertz.

The engine air intake duct shall be so shaped as to minimize water entrance into the air induction system, and the element shall be easily replaceable. A passage shall be provided so that any water which does find entry into the system can be drained prior to entry into the air cleaner element. A click-stop restriction gauge shall be provided. Donaldson Model RBX00-2277, or approved equal.

Engine Compartment Lines

Flexible lines (air, fuel and oil) in the engine compartment, shall be Aero Quip Teflon lines or approved equal, with stainless steel reusable fittings. Water lines in the engine compartment are silicone. All lines shall be sufficiently secured so that there will be no abrasive movement.

Clamps

All support clamps in the engine compartment and/or on the power module that have direct contact with the wire, cable, harness hose or line shall be insulated from contact with the wire, cable, harness hose, or line by stainless steel Breeze clamps.

Insulation

Engine side of rear seat shall be sealed so as to prevent smoke and fumes from entering passenger area and shall be insulated against both heat and sound. Thermal insulation shall assure there will be a minimum eighty degree (80°) temperature differential between engine compartment and passenger area. Noise transfer to the passenger area shall not exceed 82 DBA.

Accelerator Control System

Accelerator shall be Williams with a 45° angle compatible with Voith D 864.3 transmission, and Cummins ISL electronic engine. The throttle pedal shall be mounted so that it is equal to or higher than brake pedal.

6.20 FUEL SYSTEM

Fuel Tank

1. The fuel tank shall be a minimum 120-gallons capacity, with minimum 115-gallons useable, internally baffled to prevent surging and rigidly supported by at least four (4) supports, arranged for easy removal. Tank shall incorporate a sump with a minimum one-half inch (1/2") hex head brass drain plug.
2. Tank shall be equipped with an audible signal to indicate when tank is almost full. Shall be equipped with Emco Wheaton Posi/Lock 105 with dry break, and shall be provided with hinged spring loaded cap and hinged access door. Fill rate shall be a minimum of 40 gallons per minute. Filler neck shall be located on the curb side of the coach. .
3. Bottom draw configured fuel tank and fuel tank sending unit shall be provided to be accessible from underneath the coach.
4. The fuel tank shall be designed so as to not permit the spillage of any fuel, with the filler cap properly closed, when the floor of the coach is at any angle from horizontal through 22 degrees from horizontal in any direction for any period of time. This shall be accomplished with the fuel tank filled to capacity as defined by published capacity and whistle cut off point.

Fittings and Installation

Fittings on fuel and oil lines shall be SAE flared or inverted flare type. Fuel filter and lines shall be installed in such a manner as to avoid excessive heat and fire hazard. Restriction fittings, if applicable, shall be in fuel return line and of proper size so as to maintain fuel pressure under all conditions. A swing type check valve in the fuel supply line shall keep the supply line full of fuel when servicing filters or when fuel lines are disconnected in engine compartment.

Filters

One (1) FleetGuard OptiGuard FS1020, or approved equal, remote mount fuel filter.

Fuel Lines

- Fuel lines in engine compartment shall be Aero Quip stainless steel hose for the supply and return fuel lines from the engine compartment bulkhead to the fuel tank, or approved equal.
- Underbody fuel lines shall be sized to meet the requirements of the engine manufacturer.

Air and Oil Lines

All lines shall be synflex nylon tubing, or approved equal throughout, except air compressor discharge and turbo oil feed lines, which shall be 2807 stainless steel braid, or approved equal. All hydraulic lines shall be equipped with quick disconnects in the engine compartment.

6.21 EXHAUST SYSTEM

Type

- a. The exhaust muffler shall be a stainless steel heavy plate type muffler designed with proper acoustical qualities and tailored to the engine requirements and installation.
- b. Exhaust pipes shall be constructed of stainless steel metal tubing direct from the muffler to a location in the upper left rear of the vehicle.
- c. The exhaust system will meet all Federal and State clean air standards.

System Characteristics

- a. Exhaust system shall be constructed so that it will not cause back pressure in the engine or damage to the paint on the coach, and shall be anchored as near the end of the exhaust line as possible. It shall be mounted so as to maintain the integrity of its design throughout the life of the coach.
- b. Exhaust manifolds, muffler and single tail pipe assemblies shall be tight and allow no emission of fumes or smoke other than from open end of tail pipe.
- c. Access to test port on muffler shall be provided.

Tail Pipes

- a. Exhaust tail pipes shall be constructed of stainless steel tubing.
- b. The use of the vertical exhaust outlet shall not increase the overall length of the vehicle, nor shall it be located in such a way as to present a burn hazard to the pedestrian traffic. The termination of the tail pipe shall be such that it complies with FMVSS 108 pertaining to side marker and clearance lights, and exhaust shall be deflected to the rear of the coach.

6.22 TRANSMISSION

Type

- a. Automatic transmission shall be a VOITH D 864.3E with electronic control and shifter, or approved equal.
- b. A drain plug of magnetic type, and a flat magnet attached to bottom of oil pan near drain opening, shall be furnished.

- c. Transmission shall have a built-in oil pump, governor, and an external heat exchanger that utilizes water from the engine cooling system. The heat exchanger shall be located in an accident-free area.
- d. Transmission shall have a spin-on type external oil filter on both the main pressure valve body input line and the oil cooler output or return line.

6.23 PROPELLER SHAFT AND DRIVELINE

Propeller Shaft

- a. Propeller shaft shall be a Dana 1710 series, or approved equal. It shall have a minimum diameter of four inches (4") and shall be constructed of steel. The universal joints shall be heavy duty. Shaft shall have a protector guard.
- b. A slip joint shall be placed at the transmission to compensate for vertical movement at the rear axle. Lubrication fittings shall be provided for the universal bearings and slip joint splines.

6.24 WHEELS AND TIRES

Type

Coach shall be equipped with single front and dual rear wheels. Front wheels and tires shall be balanced and counter weighted where necessary. Alcoa 8.25 x 22.5 full polished finish hub piloted wheels, or approved equal shall be provided.

Tires

Tires shall be furnished by Proposer. They will be Goodyear Metro Miler B305/85 R22.5 Load Range J or approved equal.

6.25 AIR SUSPENSION

System Characteristics

- a. Coach shall be equipped with an air-suspension system. Air suspension system shall consist of four (4) rear and four (4) front Rolling Lobe Firestone air bellows and three (3) leveling valves, or approved equal, by which the air pressure is automatically regulated in proportion to the coach loading. Leveling valve shall be installed in such a manner that will prevent leveling valve roll-over.
- b. Air bellows shall act as a flexible connection between body and axle to absorb and cushion road shocks.

- c. Leveling valves (two rear and one front) shall also act to keep the coach body in relatively level position and contain a dampening or compensating feature to prevent excessive consumption of air resulting from high-frequency axle movements over rough streets.
- d. Metal air chambers, if used, shall be guaranteed by the manufacturer for the life of the coach. Methods of construction and the materials used shall be of such manufacture as to permit easy and convenient replacement of bellows. Bellows shall be mounted to provide easy replacement under coach.
- e. The three (3) height control valves, one (1) at the front axle and two (2) at the rear axle, will retain the height of the body in relation to the axles under all loading conditions.

Radius Arm Assemblies

- 1. Each axle shall have four (4) rubber bushed (lubrication free) radius arm assemblies.
- 2. Two (2) lower, one (1) upper, and one (1) lateral to locate the axle position and to transmit the driving, braking and cornering forces from the road to the coach understructure.
- 3. The front upper radius arm assembly shall have a turn buckle to allow adjustment of the front axle caster without arm removal.

Shock Absorbers

Shock absorbers, Koni adjustable or approved equal, shall be provided.

Axle Stops

Rubber axle stops shall be provided between the axle and frame on each side of the axles to prevent axle and/or frame damage in severe bounce condition and to allow operation of the coach if one or more air bellows are deflated.

6.26 POWER STEERING

Type

Power steering shall be Ross Model TAS65, or approved equal. Steering gear shall be an integral type.

System Characteristics

Steering effort and number of turns "lock-to-lock" shall be designed and coordinated to minimize driver fatigue. Steering forces and characteristics in the event of failure of the power boost shall enable the coach to be safely driven in this condition.

- a. Mounting of gear assembly shall be engineered to reduce road shock and vibration.

- b. Steering mechanism shall be mounted so that all adjustments can be made without dismounting. Steering units shall have hex head filler and drain plugs.
- c. The drag link assembly shall have a horizontal socket for attachment at the Pitman arm, and a vertical stud for attachment at the steering knuckle arm. Both ends shall have internal springs and lubrication fittings. The assembly shall have plus or minus .50-inch length adjustment.
- d. Front axle tie rod ends shall be threaded into the tube for adjustment without removal. Lubrication fittings shall be provided on the nonserviceable end assemblies.

Steering Wheel

The steering wheel shall be twenty inches (20") minimum in diameter and shall be black color plastic or synthetic resin construction with a metal core. It shall be provided with puller holes in the hub.

Steering Column

Shall be tilt with telescoping steering shaft.

6.27 BODY

Construction: Body and Understructure

- a. The basic body structure shall be an integral design. The structure shall be designed for maximum strength, reliability and durability.
- b. Body and understructure shall be adequately reinforced at all joints and points where stress concentration may occur so that the vehicle will carry the required loads and properly withstand road shocks.
- c. The entire coach understructure, including the wheelhouses, shall be spray coated with Ashland Oil Company Tectyl 185, or approved equal, gray undercoating.
- d. All interior and exterior metal surfaces shall be cleaned and treated to prevent rust and/or corrosion. After welding in areas where primer was previously applied, all joints shall be brushed to eliminate foreign matter and then the joint shall be cleaned with a phosphorus solution to provide a good base for good paint adhesion. Finally, the joint shall be painted with red oxide primer.
- e. Aluminum panels shall be properly prepared and primed before final paint. All bolts, nuts, washers, clamps, clips, and similar parts, shall be zinc or cadmium plated or phosphate coated to prevent corrosion.
- f. All exterior body seams, joints and overlapping panels shall be sealed against entry of water or dust. Where dissimilar metals meet, proper care shall be taken to prevent electrolytic corrosion.

- g. All material used in the body and chassis, including cross members, posts and panels, shall be of the required strength for the purpose intended and shall be properly treated to resist corrosion. All joints exposed to weather shall be made tight against leakage.

Low Floor

- a. Understructure shall consist of structural stainless steel for maximum durability, reduced maintenance, and weight and improved corrosion resistance. It shall be welded and Huck bolted throughout.
- b. Conventional bolt construction shall be with Grade 8 (traceable) hardware, and shall be used only where necessary to allow for routine disassembly (e.g., the closing crossmember shall be bolted to allow for engine removal at overhaul). No movement at bolted joints shall be allowed.
- c. Understructure at the coach sides in the low floor bus area shall have crash protection consisting of continuous minimum 3/16" stainless steel plate at an angle which will tend to cause an impacting vehicle to subvert. The crash protective steel plate shall be an integral, welded part of the structure, continuous between the wheelwells except for the exit door. Effectiveness of the design shall be documented by successful application of crashworthiness test. Results of such testing shall be submitted prior to delivery of first coach, and must meet the standards set forth in Federal Register Volume 47, No. 195, Section 2.1.2.10.
- d. Understructure at the front and rear overhang (defined as the distance between axle centerline and bumpers) shall be sufficiently robust to permit towing or lifting without special rigging being required. The design shall be verified by submission of those part of the STRUAA (Altoona Test) which address towing/recovery.
- e. The understructure shall incorporate minimum 3/16" steel floor material in the area of the vestibule, the driver's platform and the exit door area. The installation shall be sufficiently rigid to prevent flexing, and to permit rigid mounting of a farebox.
- f. Understructure shall provide protected pathways for hydraulic lines, heater piping, airlines and electrical cabling. PVC tubing shall be used as protective conduit for wires and cables. Joints in lines, hoses, etc. shall be accessible for repairing.
- g. Body structure shall be modern, and aesthetically pleasing without protruding fasteners. Visible exterior fasteners shall be kept to an absolute minimum.
- h. All side panels shall be essentially flat, without ripples and with minimal visible joints.
- i. Side panels below the window line shall be aluminum, etched, primed and painted to THE CITY OF LINCOLN paint scheme. These side panels shall each be replaceable by a mechanic without assistance. Welding, riveting, or adhesive attachment is deemed unacceptable, although adhesive, as a secondary method to control panel resonance will be permitted.
- j. Side panels shall be simple enough in shape to allow fabrication with no more tooling than a shear, brake, and edge roller. Metal panels with compound curves, fluting, curved indentations, etc. will not be permitted.

Construction: Exterior Panels

- a. All exterior panels above the rubrail shall be either riveted or welded to the body frame.
- b. A rub rail shall run full length on each side of the standard floor coach at the floor line.

Construction: Hardware

Fasteners must be of non-corroding material or finished to prevent rust and corrosion. Boron fasteners are not acceptable.

Insulation

- a. Interior of body, including roof, must be well insulated against heat, cold and noise.
- b. Roof insulation shall provide polystyrene EPS insulation.
- c. Sidewall insulation shall meet the same specifications as roof insulation. It shall be installed in all sidewalls, window post areas, and areas over the front and rear wheelhouses.
- d. The insulation referred to above, or other additional insulation, shall provide effective sound attenuation for the passenger. The maximum DBA allowable in the passenger compartment is 82.
- e. There shall be Barymat BYUF-14C one inch insulation in the engine compartment to restrict, to the maximum practical extent, the entry of fumes, odors and heat into the passenger area.

Flooring: Plywood

- a. Floor shall be constructed of marine grade, seven (7) ply 3/4", grade AB, or better, with sealed waterproof edges.
- b. The underside shall be primed with Ashland Oil Company Tectyl 185. The cut edges shall be sealed with either white lead, liquid neoprene, liquid urethane, Tuffcote, or Dolchem 606.
- c. Floor shall be laid in such a manner as to be free from squeaks. All edges shall be over underframe members.
- d. Floor shall be level throughout and all joints between the floor and vertical surfaces shall have a cove molding.
- e. Plywood shall be securely bolted to frame members. Self-tapping screws may be used.
- f. Underframe shall be stiff enough to prevent floor from excessive flexing under normal loads. The floor shall be supported so that when a person of 150 pounds or more steps on any area, there will be no discernible flexing or movement.

- g. The area at the farebox shall be of adequate strength to support the farebox safely and durably.
- h. The entire wooden floor shall be thoroughly sanded in preparation for application of floor covering material.

Roof

- a. Roof shall be constructed in accordance with the manufacturer's standard and of sufficient strength and stiffness to prevent vibration, drumming or flexing in service.
- b. A rear roof hatch shall be provided to meet the requirements of FMVSS 217.
- c. All seams, joints and overlapping panels, shall be thoroughly sealed to prevent the entry of water and dust. Where dissimilar metals meet, proper care shall be taken to prevent electrolytic corrosion.

Stepwells

Front and rear stepwells shall be stainless steel reinforced with steel tubing.

Entrance and exit floor areas are to be sloped to prevent accumulation of water or ice. No risers are permitted, except aft of exit door and may not exceed 8 $\frac{1}{2}$ " in height for each riser.

Wheelhouse

Wheelhouses shall be of sturdy construction, manufactured of stainless steel, providing ample clearance at front and rear tires under load and under all positions of front wheel steering.

Fenders

- a. Rubber fenders shall be furnished at each wheelhouse and shall be formed so as to effectively prevent road water/dirt from splashing up and onto driver's mirror and windows.
- b. Anodized aluminum retainers or moldings extending around wheelhouse to bottom of lower skirt panel shall be furnished on all wheelhousings.

Splash Apron

Splash aprons, made of not less than one-quarter inch (1/4"), three-ply rubberized fabric, or one-quarter inch (1/4") cured masticated tire friction material, black color, shall be provided at the rear of the wheelhousings, projecting downward to a point approximately six inches (6") above ground with coach loaded. Aprons shall have a maximum width compatible with the understructure of the coach.

Drip Moldings

Water-deflecting roof gutters shall be provided over the side windows and doors.

Lines: Fuel, Oil and Water

Fuel and oil lines shall be seamless annealed copper tubing or 213 Stratoflex or approved equal. Water lines will be silicone and protected with loom when passing through supports and brackets. In the engine compartment, however, all flexible air, fuel and oil lines shall be 213 Stratoflex or approved equal. Brackets shall be installed at each cross frame bulkhead and support.

6.28 INTERIOR

- a. **Floor Covering: Installation:** Floor covering shall be butt joined. Should any gaps be unavoidable, they shall be filled with color matching material so as to be tight against any influx or seepage of water present in any uneven floor edges which might cause a person, walking on them, to trip. The floor shall be cleaned thoroughly before delivery.
- b. **Floor Covering: Step Treads:** Steps at the front entrance and rear exit shall be covered with five-sixteenths inch (5/16") ribbed flooring. Entrance and exit step treads shall include integral molded noses on stainless steel metal backing. Backing to be totally enclosed in rubber.
- c. **Floor Covering: Entrance Area:** Entrance area and front standee area shall be covered with ribbed flooring not less than five-sixteenth inch (5/16") in thickness. The entrance area and the standee area are to be separated by a yellow strip molded into the flooring. A six-inch (6") stainless steel backing shall be furnished under standee line edge.
- d. **Floor Covering: Ribbed:** Center aisle and rear exit door approach area shall be covered with a ribbed floor covering not less than three-sixteenths inch (3/16") in thickness. Center aisle strip shall be twenty-two inches (22") wide.
- e. **Floor Covering: Smooth:** Floor area under the seats, including driver's area, shall be covered with a mottled smooth floor covering not less than one-eighth inch (1/8") in thickness. The material is to be thoroughly cemented into position throughout the entire area. The floor covering shall not be extended up on the wheelwell housing but shall terminate where the floor covering butts the housing. A stainless steel trim molding shall be installed on the flooring at the point the wheelwell housing and floor covering butt.
- f. **Floor Covering: Type and Color:** Floor shall utilize RCA Transit floor with the following colors to be used:
 - i. **Aisle – TR766 Ribbed**
 - ii. **Underseat – TR766 Smooth**

Advertising Card Racks

Interior advertising card racks, as integral parts of the light fixtures, shall be provided along each side of the coach to accommodate eleven-inch (11") advertising card signs.

Modesty Panels

NOTE: Bidder is advised to review the wheelchair accessibility requirements in earlier sections of this RFP, as they affect stanchion and modesty panel location and alignment.

Modesty panels shall be installed in the following locations:

- a. At the rear of front stepwell. This panel shall have adequate clearance from the front door, to prevent injury to passenger's hand(s) during the opening cycle.
- b. At the rear of rear stepwell.

Modesty panels shall be attached to handrails with counter-sunk flush fasteners securely attached to stanchion and body side. Panels shall be attached to a bottom extruded anodized aluminum rail for stiffness.

Panels shall be constructed of 3/8 inch thick 14% Graylite Lexan. All modesty panels shall be raised three inches (3") above floor level.

Stanchions

- a. In the following locations, vertical stanchions shall be mounted between either the floor or the modesty panel, and either the ceiling or the grab rail:
 - i. At the right rear of the driver's seat.
 - ii. At the inside rear corners of front and rear stepwells.
- b. A handrail constructed of smoothly surfaced anodized extruded aluminum, or approved equal, shall extend from these stanchions to the side of the coach at a height of approximately thirty-four inches (34") from the floor.

Grab Rails

- a. An entrance grab rail shall be provided at the dashboard, minimum height thirty-six inches (36"). It shall be properly located to allow installation of the farebox and access of wheelchairs.
- b. Grab rails shall be installed at the front and rear doors to aid passengers in boarding and alighting.
- c. One full length standee grab rail shall be mounted on each side of the aisle. They shall be no more than seventy-two inches (72") above the coach floor, and their ends shall terminate either in ceiling connections or in elbows.

Stanchions and Grab Rails: Construction

All stanchions and grab rails shall be one and one-quarter inch (1-1/4") welded stainless steel tubing, with fittings that match tubing. Minimum tubing thickness shall be .065-inch. Fittings shall be constructed of stainless steel, cast aluminum, cast zinc, or a corrosion resistant material.

Driver's Barrier

- a. A full height barrier beginning 6 inches (152 mm) above the floor shall be provided directly in back of the driver's station to separate the driver from the passenger compartment. The barrier shall extend from the left side coach wall to the stanchion at the right rear of the driver's station. This panel shall in no way interfere with the safe normal operation of the coach or restrict movement of the driver's seat. Mounted above driver's seat on barrier will be a driver's storage box
- b. The barrier shall be 0.25 inch (6.3 mm) melamine or other approved material. The barrier assembly shall be rigid, shall not shake or rattle in service, and shall withstand forces from passengers using it as a handhold. Any screws and/or bolts protruding through the barrier shall have rounded heads to eliminate passenger injury.

Interior Trim

Interior panels shall be applied to ensure a neat and finished appearance. Fasteners shall be of such type that they will not loosen because of vibration. Panels shall be supported so as to prevent buckles, drumming, or flexing when the vehicle is in service. All panel joints shall be sealed and covered with protective trim strips to guard against sharp edges.

- a. **Ceiling:** Ceiling trim panels shall be Melamine, Melamine bonded to aluminum, or approved equal, one-tenth inch (1/10") minimum thickness.
- b. **Sidewall Panels:** Sidewall trim/panels below the windows shall be Melamine, or approved equal, 0.12 inches minimum thickness.
- c. **Sidewall Posts:** Sidewall posts between the windows shall be covered with a suitable material and must be approved by THE CITY OF LINCOLN.
- d. **Front Area:** All interior surfaces forward of the standee line shall be nonreflective black or a color complementary to the interior of the coach.
- e. **Rear Area:** Panel behind rear settee shall be installed to provide sound attenuation and covered with Medium Gray colored carpet.. Material shall conform to the requirements of Federal Safety Standard No. 302-Flammability of Interior Materials.
- f. **Trim Moldings:** All trim moldings around wheelwells, stepwells, sidewall, cove area, settee riser, front dash area, and panel below driver's window, shall be stainless steel.
- g. **Color Scheme:** A color scheme shall be furnished for StarTran approval upon award of the contract.

Passenger Seats: Type

Passenger seats shall be American Seating Co. #6468, or approved equal. Seating shall meet or exceed all Federal Motor Vehicle Safety Standards.

General

The seat shall be ergonomically designed and shaped to provide optimal lumbar, kidney area and buttocks support.

The thickness of the transverse seat back shall be minimized to increase passenger knee room and coach capacity. The backrest shall not be thicker than 1" at the edges and ½" in the center when utilizing vandal resistant inserts. A curved insert shall allow the seat hip to knee measurements to be greater than the seat pitch.

Seat backrests shall taper toward the top to accommodate required aisle spacing. The aisle between the seats on a 102" wide coach shall be no less than 20" wide at seated passenger hip height and no less than 24" at standing passenger hip height.

Foot room, measured at the floor forward from a point vertically below the front of the seat cushion, shall be no less than 14". Seats immediately behind the wheel housings may have foot room reduced, provided the wheelhouse is shaped so that it may be used as a footrest.

SEAT FRAME: Each seated position shall have its own seat frame assembly. The seat shall have well defined individual seating positions. All metal of the standard seat structure including the frame, cantilever, pedestals, beams, mounting brackets and other components shall be stainless steel with beaded finish. The frame shall be constructed of 25mm OD tube with 2mm wall thickness.

The passenger seat frame and its supporting structure shall be constructed and mounted so that space under the seat is maximized to facilitate cleaning. Cantilevered seats shall be mounted to the sidewall with sufficient strength for the intended service. The lowest part of the seat assembly that is within 12" of the aisle shall be at least 10" above the floor. Cantilever assemblies must be collapsible with pivoting linkages at the lower wall mounting bracket and the junction between the cantilever leg and beam assembly. The lowest part of a pedestal-mounted seat that is within 12" of the aisle, excluding the pedestal, shall be at least 10" above the floor.

The seat back and seat back handhold immediately forward of transverse seats shall be constructed of energy absorbing materials to provide passenger protection and, in a severe crash, allow the passenger to deform the seating materials in the impact areas in accordance with the Knee Impact and Head Impact Critical requirements. The minimum radius of any part of the seat back, handhold, or modesty panel in the head or chest impact zone shall be a nominal 1/4".

GRAB RAIL: The back of each transverse seat shall incorporate a handhold no less than 7/8" in diameter for standees and seat access/egress. Individual handholds shall be mounted to each seat frame. The service time to exchange grab handles shall not exceed five minutes. The handhold shall not be a safety hazard during severe decelerations. The handhold of all aisle seats shall extend above the seat back near the aisle so that standees shall have a convenient vertical assist, no less than 4" long that may be grasped with the full hand. This handhold shall not cause a standee using this assist to interfere with a seated 50th-percentile male passenger. Handholds on seats not directly on the aisle shall be maximum 3" tall to allow maximum visibility of the seated occupants behind the seat. Each handhold shall also be usable by a 5th-percentile female, as well as by larger passengers, to assist with seat access/egress for either transverse seating position. The upper rear portion of the seat back and the seat back handhold immediately forward of transverse seats shall be padded and/or constructed of energy absorbing materials. All grab rails shall be curved to match the curve of an occupant's back torso. Longitudinal seats shall be the same general design as transverse seats but without grab rails.

TEST REQUIREMENTS: All transverse objects, including seat backs, modesty panels, and longitudinal seats, in front of forward facing seats shall not impart a compressive load in excess

of 1,000 pounds onto the femur of passengers ranging in size from a 5th-percentile female of a 95th-percentile male during a 10g deceleration of the coach. This deceleration shall peak at .05 √ .015 seconds from initiation. Permanent deformation of the seat resulting from two 95th-percentile males striking the seat back during this 10g deceleration shall not exceed 2", measured at the aisle side of the seat frame at height H. Seat back should not deflect more than 14", measured at the top of the seat back, in a controlled manner to minimize passenger injury. Structural failure of any part of the seat or sidewall shall not introduce a laceration hazard.

The seat assembly shall withstand static vertical forces of 500 pounds applied to the top of the seat cushion in each seating position with less than ¼" permanent deformation in the seat or its mountings. The seat assembly shall withstand static horizontal forces of 500 pounds evenly distributed along the top of the seat back with less than ¼" permanent deformation in the seat or its mountings. The seat backs at the aisle position and at the window position shall withstand repeated impacts of two 40-pound sandbags without visible deterioration. One sandbag shall strike the front 40,000 times and the other sandbag shall strike the rear 40,000 times. Each sandbag shall be suspended on a 36" pendulum and shall strike the seat back 10,000 times each from distances of 6, 8, 10, and 12". Seats at both seating positions shall withstand 4,000 vertical drops of a 40-pound sandbag without visible deterioration. The sandbag shall be dropped 1,000 times each from heights of 6, 8, 10, and 12". Seat cushions shall withstand 100,000 randomly positioned 3 ½" drops of a squirming, 150-pound, smooth-surfaced, buttocks-shape striker with only minimal wear on the seat covering and no failures to seat structure or cushion suspension components.

During a 10g deceleration of the coach, the HIC number (as defined by SAE Standard J211a) shall not exceed 400 for passengers ranging in size from a 6 year old child through a 95th percentile male. The seat back handhold may be deleted from seats that do not have another transverse seat directly behind and where vertical assist is provided.

Seat back handhold and armrests shall withstand static horizontal and vertical forces of 250 pounds applied anywhere along their length with less than ¼" permanent deformation. Seat back handhold and armrests shall withstand 25,000 impacts in each direction of a horizontal force of 125 pounds with less than ¼" permanent deformation and without visible deterioration.

REPORTING REQUIREMENTS: The Contractor shall be capable of providing a test report fully documenting compliance with all the requirements defined above upon request. The test report shall contain a record of all testing activities, test diagrams, testing equipment, as well as test data related to loads, deflections and permanent deformation of the seat assembly. The report shall include a statement of compliance with the requirements of the Federal Procurement Guidelines (White Book), section 5: Technical Specifications. Testing must be done by an independent, certified testing facility.

WHEELCHAIR ACCOMMODATIONS: Two forward-facing locations, as close to the wheelchair loading system as practical, shall provide parking space and secure tie-down for a passenger in a wheelchair. Additional equipment, including passenger restraint seat belts and wheelchair securement devices shall be provided for two wheelchair passengers. Passenger restraint seat belts shall be provided to accommodate passengers in electrically powered wheelchairs. All belt assemblies must stow up and out of the way when not in use.

Passenger Seats: Transverse

- a. Seat colors shall be provided at pre-production meeting.
- b. There shall be an end closure between the window end of the seat cushion and back and the interior panel below the window to prevent the accumulation of trash in that area.

Passenger Seats: Longitudinal

- a. Longitudinal passenger seats shall be provided, two each, in the front and rear of the coach. They shall be of the same color, quality, make and construction as all other passenger seats.
- b. Location of front seats shall be directly behind driver's seat and front stepwell between tie-down-equipped jump seats.
- c. Rear longitudinal seats shall be located above the rear wheel wells.

Passenger Seats: Folding

Will be used in wheelchair securement area.

Passenger Seats: Rear Cross

- a. Rear seat shall be a 5-passenger unit that is hinged on top for engine access.
- b. Seat shall be of same color, quality, make and construction as all other passenger seats.

6.29 DRIVER'S STATION AND CONTROLS

Design Factors

- a. The design of the driver's station shall have as its primary objective the provision of an environment for the driver that will aid him or her to operate the coach safely and efficiently for long periods of time with minimum fatigue. Human factors design principles shall be used in the layout and proportioning of the driver's station and its components with attention given to safety, "comfort and fatigue," body support; the size, shape and location of switches, levers, pedals and gauges; and all other factors that affect the design objective.
- b. The driver's station shall accommodate drivers who are of various heights and body proportions by the use of human factors design in locating and proportioning the devices in the station and by the use of adjustable components such as the driver's seat and the steering column. It is required that the station accommodate drivers within a height range of 57 to 76.5 inches (145 to 194 cm).
- c. The Contractor shall, as a joint effort with THE CITY OF LINCOLN, to determine the location of all equipment with respect to proper lighting, ease of operation, accessibility and passenger flow. Factors to be considered include, but are not limited to, the provision of mountings for and deterring the location of the farebox, radio speaker, radio control head and any other equipment supplied by THE CITY OF LINCOLN. Complete details of the driver's station design shall be presented at the design review and at the prototype review for approval by THE CITY OF LINCOLN.

Driver's Seat

- a. The driver's seat shall be adjustable to provide comfort for drivers within the range of sizes given in the previous subsection. It shall have a full ten (10) inches of adjustment in the fore and aft direction without contacting any coach part. The seat back and seat cushion shall be adjustable, and the seat height shall be adjustable. The seat shall be installed in the same location in all coaches. All adjustments shall be easily made without the possibility of crushing or pinching the driver's hand or fingers. A dynamic load damper shall be provided on the seat to augment the springing and padding in the cushions. Rubber bumpers shall be provided to prevent metal-to-metal contact if the seat "bottoms out." Any electrical connections to the seat shall have quick disconnect provisions to allow easy removal and replacement of the seat. The driver's seat shall be "USSC" 9100 ALX3 with ABS back shell, lap belt auto lock retractors, air operated fore/aft, slide release, or approved equal without headrest.
- b. The entire face of the driver's seat and back cushions shall be fabric and no welt cord shall be used. Seat cushion edges shall be vinyl. Seat cushions shall be of a long lasting, fire resistant foam. Particular attention shall be given to providing a seat which is comfortable in warm, humid weather and which gives full consideration to long period of occupancy.
- c. The seat shall be supplied with an inertia locked retractable and adjustable seat belt. The seat belt shall extend from left to right and shall have a usable travel of at least 70 inches measured from the open end of the protective boot to the end of the buckle or latch plate. Also detachable shoulder belt is required.

6.30 WINDOWS

Windshield

The windshield shall incorporate a two-piece design constructed of one-quarter inch (1/4") thick safety plate laminated glass. Both right-hand and left-hand windshields shall be retained in the body structure with "zip-lock" black rubber extrusions for ease of maintenance. The driver's windshield shall be tilted 17 degrees-19 degrees to reduce windshield glare. Total glass area shall be twenty-one square feet (21 sq. ft.) minimum.

Side Windows

- a. All passenger windows shall be manufactured by TransGlass Inc., or approved equal.
- b. Windows shall have black anodized aluminum frames. All windows shall be $\frac{3}{4}$ lower egress and all windows of the same size shall be interchangeable. All egress handles shall be located towards the front of the coach. Windows shall be designed to prevent the entrance of air and water when windows are closed. Near each window there shall be instructions on decals or aluminum plates that sufficiently explain emergency exit procedures. Location of the metal decal shall be determined by THE CITY OF LINCOLN Emergency instructions shall be printed in both English and Spanish. All requirements of FMVSS217 shall be complied with.

- e. The lower section of the window, approximately thirty inches (30") shall be fixed. The upper portion of approximately nine inches (9") shall be inwardly openable to provide adequate outside air ventilation and shall have locking latches. Transom locks are required.
- d. Windows shall be one-quarter inch (1/4") laminated safety glass.
- e. Glazing in the sash shall be replaced without removing the window from its installed position or manipulation of the rubber molding surrounding the glazing.
- f. All passenger window 1/4" laminated fixed glazing.

Driver's Window

Driver's window shall have black anodized aluminum frame with one horizontal sliding sash. The window shall have a ratchet mechanism to prevent uncontrolled sliding. The window shall have an upper fixed lower 3/4 slider window assembly. It shall be constructed so that it can easily be adjusted with one-hand operation.

6.31 WINDSHIELD WIPERS AND WASHERS

Windshield wipers and equipment shall be Sprague Industries Electric, or approved equal, and shall provide an adjustable time delay feature. The coach shall be equipped with variable speed windshield wiper for each half of the windshield with separate controls for each side. No part of the windshield mechanism shall be damaged by manual manipulation of the arm. At 60 MPH, no more than 10 percent (10%) of the wiped area shall be lost due to windshield wiper lift. Both wipers shall park along the edges of the windshield glass. Windshield wiper motor mechanisms shall be easily accessible for repairs or service from inside or outside the coach and shall be removable as complete units.

The windshield washer system shall deposit washing fluid on the windshield from nozzles attached to the wiper arms and shall evenly and completely wet the entire wiped area. The windshield washer system shall have a reservoir of at least two (2) gallons located for easy refilling. The reservoir itself shall be translucent for easy determination of fluid level. Reservoir, reservoir pumps, lines and fittings shall be corrosion resistant and protected from freezing.

6.32 PASSENGER DOORS

Front Entrance Door

- a. The front door shall be of aluminum, two-section, slide-glide or bifold type with minimum clear opening dimensions of 31.25 inches wide, or approved equal.
- b. Door shall be inward opening and shall have stainless steel hinges with joints at the door posts covered by rubber seals, or approved equal. Meeting edges of door shall have four inches (4"), extruded overlapping type rubber safety edges two inches (2") on each half, or approved equal.
- c. Door shall be fully air-operated with Vapor, or approved equal, door motor. An air shut-off valve, located either immediately above the front door within the header compartment, or at left of driver controls, shall be supplied. When valve is in "Off" position, front door shall be capable of being opened and closed manually.
- d. Front door area shall have a hand rail to aid in boarding the coach. The hand rails on the wheelchair lift are appropriate.
- e. Access door to door mechanism compartment shall have a chain or other acceptable device to hold door in the open position, when necessary.

Rear Exit Door

- a. Rear exit door shall be aluminum two-section outward opening manually opened by passengers and closed by spring-loaded check mechanism. Clear opening of door shall be a minimum of 24.25 inches.
- b. The door operating mechanism, mounted on a removable steel base plate in a compartment directly above the door, shall be a Vapor Corporation, or approved equal, mechanical lock/electric unlock type. Door in closed position shall be locked by a spring-loaded lock lever. To unlock door, lock lever shall be retracted by an electrical solenoid that is energized from a switch in driver's door control valve. When unlocked, door shall be able to be manually opened. Door closing shall be controlled by a return spring mechanism, and the rate of closing shall be retarded by a check cylinder designed to prevent slamming of the door. The rate of closing shall be adjustable, with a speed control valve on the check cylinder.
- c. Meeting edges of the door shall have four-inch (4") extruded overlapping type rubber safety edges, two inches (2") on each half, or approved equal.

- d. Rear door shall incorporate safety features as required for power actuated doors not adjacent to the driver.
- e. Access door to door operating mechanism shall have a chain or other acceptable device to hold door in the open position, when necessary.

Door Controls and Interlocks

- a. Both front and rear doors shall be controlled by a five (5) position door operating control, with the following positions:
 - Front door open - rear door unlocked
 - Front door open
 - Both doors closed
 - Rear door unlocked
 - Rear door unlocked - front door open.
- b. This control shall be located on the console to the left of the operator.
- c. A brake and accelerator interlock shall be provided that prevents movement of the coach when the rear doors are open. The interlock equipment shall be mounted together as one assembly.
- d. A rear door override lever shall be provided for emergency exit. the lever shall be located in the rear, door control, compartment. The lever is used to release the rear door from the locked position for manual operation and also shall engage the interlock.
- e. A master interlock override switch shall be provided. It shall be located in the electric panel near the driver and shall be in a secure position.
- f. A front door, air override, control valve shall be provided. The valve shall control the release of all air to the front door so that the door may be opened manually.

Door Glass

Each section of the door shall be glazed with one-quarter-inch (1/4") nominal laminated glass.

6.33 MIRRORS

Interior Mirrors

- a. Coaches shall be equipped with two inside rear view mirrors.
 - Center rear view mirror above windshield shall be mounted on windshield header panel above and in front of driver. Dimensions shall be 8.25 inches by 16 inches. Mirror shall have a nonreflective black rim and mounting bracket made of steel. Mirror shall be positively mounted to allow for adjustment but to eliminate, to the maximum practical extent, mirror vibration.
 - Right windshield header mirror shall be a six-inch (6") round mirror. This mirror shall be located so as not to interfere with passengers, and shall have an adjustable mounting bracket.
 - A mirror shall be mounted above the entrance door. It shall be 7" x 10" and shall have an adjustable mounting bracket.
- d. A twelve-inch (12") diameter mirror shall be mounted above and behind the rear exit door in such a way that it will not interfere with passengers.

Exterior Mirrors

General

Coaches shall be equipped with two (2) mirrors, one (1) mounted on the roadside front corner post and one (1) mounted on the curbside front corner post. Mirrors will not extend further than a twelve inch (12") radius from the corner of coach and shall be mounted on the top of the front corner post.

Curbside and Roadside Mirrors

- a. Mirrors shall be a remote adjustable, B & R one piece 8" x 8", with all metal hardware, or approved equal. The controls shall be located to the roadside of the driver and provide for a full range of adjustment of both glazings of the mirrors. The glass shall be easily replaceable and be secured with Velcro. Also 5# bolt on convex spot mirror is required.

- b. All arms, housings and hardware utilized for the exterior mirrors shall be stainless steel.
- c. Mirrors shall be mounted on retractable arms.
- d. Mirror type and location subject to final approval by THE CITY OF LINCOLN.

6.34 HEATING, DEFROSTING, VENTILATING & AIR CONDITIONING SYSTEMS

System Characteristics

- a. A heating and ventilating system shall be provided with proper correlation to provide practical maximum comfort to passengers and the operator. Heating and ventilating system shall incorporate introduction of approximately twenty (20) percent fresh air.
- b. Air for heating and ventilating shall be evenly distributed throughout the coach body in such a manner as to minimize temperature variation. Provision shall be made for minor adjustment of controls to maintain desired temperatures within the coach without changing supply of outside air required for ventilation.
- c. A manual control or modulating valve shall be provided to permit the fans to be used for power ventilation of outside air in warm weather.
- d. Main heating system shall be thermostatically controlled. The heating system shall provide heated, filtered air for an ambient temperature differential from sixty (60) degrees to zero (0) degree F. Heating filtering elements must be of the disposable type.
- e. All motors shall be brushless, or approved equal.
- f. Blower motor(s) shall be two-speed, heavy-duty with adequate output to provide circulation throughout the coach. Blowers shall also circulate fresh air throughout the coach.
- g. Main heater shall be mounted in the rear of the coach above the engine compartment. It shall be a hot water type with heavy-duty motors and a minimum capacity of 110,000 B.T.U. at 100-degree water-air temperature differential, or approved equal. A water shut-off valve shall be provided at the heater.

Driver's Heater

- a. A separate dash heater and blower shall be provided for the driver's comfort and for windshield defrosting. Capacity of 40,000 BTU output at 100-degree water-air temperature differential, is required.

- b. A blower, Model – Red Dot with a Transicoil brushless motor with standard manual control shall be provided.
- c. Defroster blower shall be automatically inoperative if the alternator is not charging.
- d. There shall also be a left foot vent for the Driver's heating system.

Heater Water Lines

- a. Heater water lines shall not be exposed within the coach.
- b. All water lines shall be heavily insulated throughout the coach. They shall be made of heavy-duty copper or brass, except where shock absorbing or flex lines are required.

Heater Cores

- a. All heater cores shall be of aluminum. Metal used in the tanks shall be of adequate thickness with drawn reinforcements. All radii of the tanks shall be of sufficient size to preclude fatigue failure.
- b. Heater cores, motor and fan must be readily accessible and installed to permit ready removal.

Heater and Blower Motors

- a. All blowers required for the heating and ventilating system shall be balanced statically and dynamically.
- b. All motors required for these blowers shall be heavy-duty type, ECDC motors three-eighth (3/8) horsepower minimum.

Heater Gradustat and Water Pump

Gradustat controlling the heating system shall be protected or screened to prevent tampering and guarded against any possible damage from passenger's feet. Water supply to the heating system to be controlled by a modulating valve. The heater circulating water pump must be an ECDC minimum capacity of fifteen (15) gallons per minute, ROTRON Brushless - sealless or approved equal..

Air Conditioning System

- a. The coach shall be equipped with a Thermo King Intelligaire II Model Air Conditioning System with X426 Compressor and Clutch Assembly. The motors are to be Reliant brushless. The compressor/clutch assembly mounts in the engine compartment, and is belt driven from either the engine or transmission. If an alternator is also driven from the same PTO, then the compressor and alternator shall be driven by a single serpentine design belt.
- b. The air conditioning unit frame shall be constructed of 5052-H32 structural aluminum of .100 and .182 material thickness for strength, corrosion protection, and light weight. The frame shall be all welded and painted with a high solid polyester paint. All hardware shall be 300 Series stainless steel to protect against corrosion.

"Neverseer" anti-seizing lubricant shall be applied to the threads of all stainless steel hardware during unit assembly to prevent thread galling.

- c. The evaporator, heater and condenser coils shall be constructed of 3/8 inch outside diameter seamless Series 122 copper tubing having minimum .0195 inch wall thickness. The copper tubing shall be mechanically expanded into aluminum fins having a minimum thickness of .080 inch. The fin spacing shall be: evaporator and heater coils - 12 fins per inch; condenser coil - 10 fins per inch. The condenser coil shall be dipped in an acrylic base, polyvinyl material to provide a 2 mil thick coating of the entire exterior surface for corrosion protection and quick dirt release during washing. This coating shall not impair the performance of the air conditioning system. The condenser coil shall be mounted to allow easy removal and reinstallation without major disassembly of the unit frame or removal of the unit from the coach. Separate drains shall be provided for the condenser and evaporator/heater sections to allow moisture to be routed out of the unit to the street. Drain seals and/or traps shall be installed at the outlet of the evaporator/heater drain tubes to prevent entrance of dirt or fumes into the coach.
- d. The motors shall be Reliant brushless, or approved equal. The condenser shall have two motors; the evaporator/heater shall have one. Motors shall be selected and applied to maximize efficient operation, airflow and long life. Brush life shall be minimum of 10,000 hours of operating time. Motors shall be capable of two speed operation. Evaporator/heater motor shall operate at low speed during heat mode and high speed during cool, vent or reheat modes. Condenser fans shall be axial flow type with a steel spider, aluminum blades and aluminum hub. The fans shall be coated with high solid polyester paint for corrosion protection.
- e. Evaporator/heater blowers shall be 9" x 5", forward curve, single inlet centrifugal type. Regreasable, self-aligning outboard bearings shall support the blower shafts. Heavy duty, ring type flexible couplings shall connect the shafts to the motor.

Temperature and Electrical Controls

There shall be a unitized control panel consisting of reliable electromechanical relays, magnetic motor circuit breakers, bi-metal control circuit breakers, adjustable return air thermostat with a range of 60° - 90° F, ambient thermostat, evaporator coil anti-freeze thermostat and terminal board for ease of troubleshooting.

This control panel shall be located in the evaporator/heater return air area, or in an enclosed control box if mounted in an ambient location. The return air thermostat shall have a maximum tolerance from set point of 2.5° F.

Electrical Wiring and Terminals

All unit wiring shall be UL758, Style 3173/3196 having copper strands with tinned ally coating rated for up to 600 volts. The insulation shall be cross-linked polyethylene, rated for 125° C and shall be white in color with hot stamp number coding the entire length at a maximum spacing of 1-3 inches. All terminals shall be "forklok" or ring type with vinyl insulation. All terminals shall be machine crimped. Hand crimping is not acceptable. All terminations exposed to ambient shall be coated with glycol for corrosion protection.

Receiver Tank, Dry Eye, Filter/Dehydrator

The unit shall be equipped with a refrigerant receiver tank installed vertically to ensure a steady liquid feed to the expansion valve. The receiver tank shall meet all ASTM requirements and have two (2) sight glasses for checking refrigerant level. The top sight glass shall have a floating plastic ball to indicate proper refrigerant level. A refrigerant dry eye shall be provided in the liquid line, or in the lower sight glass of the receiver tank, to indicate the presence of moisture in the refrigerant system. The unit shall have a disposable liquid line filter/dehydrator.

Refrigerant Hoses, Copper Tubing, Fittings

- a. Suction and discharge hoses shall be provided to connect the air conditioning unit to the compressor. The hoses shall have reusable swivel fittings, Teflon liner, stainless steel interior support coil, stainless steel exterior braid, and asbestos exterior sleeve for abrasion protection. Length of such hoses shall be kept to a minimum to minimize effusion of refrigerant or permeation of moisture.
- b. All copper tubing provided shall be refrigeration grade, Series 122 seamless type meeting ASTM specifications. All solder joints shall be silver soldered. All flux and scale shall be cleaned from solder joints, prior to soldering, and all tubing exposed to ambient shall be sprayed with fungus proof varnish.

- c. All JIC and SAE swivel fittings of 3/4" flare size and larger shall include "o" rings for added sealing protection. "O" ring material must be compatible with refrigerant.

Expansion Valve

The expansion valve shall be externally equalized. It shall have a replaceable power head and cage assembly and be equipped with a 100 mesh screen at the inlet to prevent contaminants from plugging the seat. The superheat shall be factory set, requiring no field adjustment. The expansion valve bulb shall be clamped to the suction line in the evaporator compartment and insulated from effects of surrounding air temperature. The expansion valve body shall be properly secured and mounted in the return air area for ease of access.

System Performance

The Intelligaire II Series system shall control the interior coach temperature to meet all White Book temperature control performance requirements defined in Chapter 3.7, INTERIOR CLIMATE CONTROL, of the Department of Transportation URBAN MASS TRANSPORTATION ADMINISTRATION, BASELINE ADVANCE DESIGN TRANSIT COACH SPECIFICATIONS.

System Protective Controls

The air conditioning system will be equipped with the following protective control:

- a. High pressure cutout switch.
- b. Low pressure cutout switch.
- c. Ambient sensing switch 45 + 5 F cutout 55 + 5 F cut-in.
- d. These switches will interrupt the compressor energizing circuit. Both the high and low pressure switches will energize a trouble light at the driver's console.
- e. High pressure relief valve.
- f. Evaporator coil freeze protection - The system will be equipped with an evaporator pressure regulator or Anti-Freeze thermostat to prevent condensate freezing on the evaporator coil.

Compressor

- a. The air conditioning system shall be provided with a 4 cylinder, in-line V, 25.9 CID, reciprocating compressor. The compressor shall be capable of cycling on/off at any operating speed - no unloaders are to be used. It shall have aluminum body, heads and sump; free floating ring type suction valves, free floating ring type discharge valves with spring loaded cage to accept liquid slugging; two ball bearing mains, one on the front and one on the rear of the crankshaft for support; steel connecting rods with replaceable insert bearings on both ends; vanvsil alloy ringless pistons, replaceable cast iron cylinder sleeves; gerotor oil pump; 8.9 point oil sump. Synthetic 150 SUS oil shall be used. High and low refrigerant pressure cutout switches shall be mounted on the compressor. Suction and discharge service valves shall be made of brass, with steel stems.
- b. The compressor clutch shall be an electromagnetic design which utilizes a double row, open type ball bearing. The inner race of the ball bearing shall mount on the hub of the front compressor seal plate and shall be held in place by a locking nut. The outer race of the bearing shall be pressed into the pulley cavity and held in place by a snap ring. External Teflon grease seals mounted in the clutch pulley shall hold a large reserve of Exxon Unirex N2 high temperature grease on both sides of the clutch bearing for maximum lubrication. The front seal shall have a grease zerk to conveniently enable bearing relubrication without disassembly of the clutch disc.
- c. The air gap between the clutch disc and mating pulley plate surface shall be adjustable. The clutch pulley plate shall be thick enough to allow for removal of .030 inch of material during resurfacing on a lathe during overhaul.

6.35 DESTINATION SIGNS

A Luminator Max 3000 100% LED (amber), automatic electronic Passenger Information Display Sign System, or approved equal, shall be furnished and installed in the coach. The System shall consist of:

Display Signs

- a. Front Sign: 16 rows x 160 columns; display height minimum 7.7 inches, display width 63".
- b. Side Sign: 8 rows x 96 columns; display height minimum 2.8 inches, display width 36.3".
- c. Rear Sign: 16 rows x 48 columns; display height minimum 6.1 inches, display width 18".
- d. Operators Control Unit (OCU)
- e. Cables and Accessories

Sign Locations

The front sign shall be mounted on the front of the coach, near the top edge of the body, behind windshield protection, and in an enclosed but accessible compartment provided by the coach manufacturer.

The side sign shall be located on the right side of the coach near the front door.

The rear sign (external) shall be mounted on Luminator supplied brackets on the rear of the vehicle on an appropriate sized cutout provided by the coach manufacturer.

The entire display area of all signs shall be readable in direct sunlight, at night, and in all lighting conditions between those two lighting extremes, with evenly distributed illumination appearance to the un-aided eye.

Communications

The System shall be microprocessor-based utilizing approved bi-directional serial communications, such as; S.A.E. J1708 or IBIS, E.I.A. RS-485, between System components, and shall utilize error detection techniques within the communication protocol.

Independent Controller Boards shall be mounted in the front and side destination sign. The System shall be capable of communicating with, and/or controlling additional information devices, such as interior information signs, Voice Annunciation devices, farebox, Automatic Vehicle Locator Systems, etc. The System shall provide for destination and/or Public Relations (P/R) message entry.

Flash memory integrated circuits shall be capable of storing and displaying up to 10,000 message lines. Message memory shall be changeable by the use of a PCMCIA Card of not less than one (1) megabyte memory capacity but sized according to the message listing noted herein.

The System shall have the ability to sequentially display multi-line destination messages, with the route number portion remaining in a constant "on" mode at all times, if so programmed. It shall also be capable of accepting manual entry of Route Alpha/Numeric information on any/all signs.

The various signs shall be programmable to display independent messages or the same messages; up to two destination messages and one public relations message shall be pre-selectable. The operator shall be able to quickly change between the pre-selected messages without re-entering a message code. Public relations messages shall be capable of being displayed alternately with the regular text and route messages or displayed separately.

An emergency message shall be activated by a push button or toggle switch in a location to be approved by THE CITY OF LINCOLN. The emergency message shall be displayed on signs facing outside the vehicle while signs inside the vehicle, including the OCU display, remain unchanged. The emergency message shall be canceled by entering a new destination code, or power cycling (after removal of the emergency signal).

The programming software shall provide means of adjusting the length of time messages are displayed in 0.1 second increments up to twenty-five seconds.

Power to the sign system shall be controlled by the master coach run switch. The signs shall operate in all positions of this switch except off. The signs shall be internally protected against voltage transients and RFI interference to ensure proper operation in the local environment.

Display and Display Illumination

All sign displays shall consist of pixels utilizing high intensity Light Emitting Diode's ("LED"), for superior outdoor environmental performance, (of amber illumination appearance of light wavelength of 590 NM). LED should be made of AlInGaP II, superior UV resistant epoxy lens and superior resistance to the effects of moisture. Each pixel shall have a dedicated LED for illumination of the pixel in all lighting conditions. The Sign System shall have multi-level intensity changes, which adjust automatically as a function of ambient lighting conditions. There shall be no requirement for any fan or any specialized cooling or air circulation.

This LED shall be mounted such as to be visible directly to the observer positioned in the viewing cone, allowing for full readability 65 degrees either side of the destination sign centerline. The LED shall be the only means of illumination of the Sign System. The LED illumination source shall have an operating life M.T.B.F. of not less than 100,000 hours. Each LED shall not consume more than 0.02 watts.

The characters formed by the System shall meet the requirements of the Americans with Disabilities Act (ADA) of 1990 Reference 49 CFR Section 38.39.

Sign Enclosures

All signs shall be enclosed in a manner such as to inhibit entry of dirt, dust, water and other contaminants during normal operation or cleaning. Access shall be provided to clean the inside of the coach window(s) associated with the sign and to remove or replace the sign components. Access panels and display boards shall be mounted for ease of maintenance/replacement. Any exterior rear sign enclosure used shall be made of Polycarbonate material containing fiberglass reinforcement. The vehicle manufacturer shall comply with the sign manufacturer's recommended mounting, mounting configuration, and installation procedures to assure optimum visibility and service accessibility of the Sign System and System components.

Electronic System Requirements

All electronic circuit boards used in the Sign System shall be conformal coated to meet the requirements of military specification MIL-I-46058C. All Sign System components shall be certified to have been subjected to a "burn-in" test of a minimum of twelve (12) hours operation in a temperature of 150 degrees F. prior to final inspection.

Front Sign

The front sign message shall be readable by a person with 20/20 vision from a distance not less than 350 feet for signs of display height greater than 8 inches and from a distance not less than 275 feet for display heights less than 8 inches. The front sign shall have a viewing cone of equal readability at 65 degrees on either side of a line perpendicular to the center of the mean plane of the display. The intensity of the illumination of the display pixels shall appear, to the naked eye, to be approximately uniform throughout the full viewing cone.

Side Sign

The side sign message shall be readable by a person with 20/20 vision, from a distance of not less than 110 feet. The side sign shall have a viewing cone of equal readability at 65 degrees on either side of a line perpendicular to the center of the mean plane of the display. The intensity of the illumination of the display pixels shall appear, to the naked eye, to be approximately uniform throughout the full viewing cone.

Rear Destination Sign

The rear sign shall be capable of independently displaying alpha-numeric characters. Its message shall be readable by a person with 20/20 vision, from a distance of not less than 225 feet. The rear sign shall have a viewing cone of equal readability at 65 degrees on either side of a line perpendicular to the center of the mean plane of the display. The intensity of the illumination of the display pixels shall appear, to the naked eye, to be approximately uniform throughout the full viewing cone.

Operator Control Unit (OCU)

The OCU shall be used to view and update display messages. It shall be recess mounted in a desirable location to best serve operator comfort and ease of use. The OCU shall utilize a multi-key conductive rubber pad keyboard and be designed for transit operating conditions.

The OCU shall contain a display of at least two lines of 20-character capability. The OCU shall contain an audio annunciator that beeps indicating that a key is depressed. The OCU shall continuously display the message associated with the selected destination readings (except the emergency message feature as noted above.)

The OCU shall also contain the capability to manually select the block number sign information (from 1 to 4 alpha-numeric characters) to be sent to the block number sign, independent of any pre-programmed destination sign message information.

If the IBIS interface is required in the Destination Sign System, an auxiliary RS232 (DB9) port shall be made optionally available on the OCU underframe for inputs from any wireless technology that might be envisioned in the future. This auxiliary RS232 port shall operate at 9600 baud and accept commands from a wireless source (such as Spread Spectrum receivers) and will set destination sign addresses as if manually operated by the OCU operator.

If the J1708 interface is selected for the Destination Sign System, an auxiliary J1708 port shall be made available on the J1708 OCU so that auxiliary J1708 commands may be provided to the Destination Sign System from a wireless source that conforms to the J1708 command structure. Luminator does not provide wireless apparatus, but the Luminator Designation Sign System has the capability of interfacing via the J1708 link with any such inputs, providing that the apparatus conform with the appropriate signaling specifications.

Programming

A WINDOWS® XP programming software package shall be supplied, under limited-use license, to generate message lists for the Sign System.

The programming software shall be intuitive, of design to facilitate ease of training, and use context-sensitive help features. Reasonable on-site training support shall be provided with the software.

This software will provide capability for custom message writing by selection of preprogrammed standard variable width fonts. This allows for creation of a custom font by varying spacing between characters, words, or other message elements. This software also allows for creation of graphic displays with or without text; by selecting preprogrammed graphic sign images and by allowing use of multiple fonts within the same message and graphic symbols placed anywhere within the display area.

Message Memory Transfer and Update

The Sign System shall be reprogrammable on the coach vehicle with the use of a PCMCIA Card. A PCMCIA Card slot shall be provided on the OCU face for this purpose. The maximum reprogramming time for a 10,000 line listing shall be one minute. PCMCIA Cards, of appropriate memory capacity based on requirements of the message listing noted below (but not less than 0.5 Megabyte) shall be supplied at the rate of one card for each 50 systems, or fraction thereof, but in any event not less than four such PCMCIA Cards shall be supplied.

Interconnecting Cabling

Data Communication	Single twisted pair (two conductors) cable
Power Cabling	Three conductors connecting to the switched and unswitched (battery) power and a return (battery)
OCU Unit Cable	Single twisted pair cable between the OCU and front sign.

Message Listing

Upon receipt of the contract/purchase order the vehicle manufacturer shall supply to the sign manufacturer, within 14 days, a list of the message readings or listings such as to allow the Sign System to be preprogrammed with the correct readings.

Interior Headsign

An all LED interior headsign compatible with Automated Voice Annunciator System and Automatic Vehicle Locator System shall be provided.

6.36 MISCELLANEOUS INTERIOR COMPONENTS

Visor

Padded visors or roller type shades shall be provided on driver's side; one shall be for the windshield and one shall be for the driver's side window. They shall be adjustable horizontally and vertically and shall meet requirements of State law. Visor shall be constructed of heavy-duty material and assembled to last the life of the coach in normal operations. Visor shall incorporate a clip type lock to lock visor in front or side position.

Farebox

GFI Cents A Bill Tall Model. Exact model number to be confirmed by Authority at the pre-production meeting and dependent on the style of vehicle selected.

Safety Equipment Compartment

A Amerex Model 400T ABC , or approved equal, five-pound (5 lb.) dry chemical fire extinguisher and KD #610-4645, or approved equal, safety triangle kit shall be installed.

Safety triangle kit to be securely installed under the front right side longitudinal seat. Location of both the fire extinguisher and the kit to be approved by THE CITY OF LINCOLN.

Coat Hook

A coat hook shall be mounted on the rear post of the driver's window, or driver barrier frame.

Valuables Compartment

A compartment/box for storing driver's purse or valuables shall be located under the front of the right front longitudinal seat or a driver's barrier (for the low floor). It shall be of aluminum or steel, 6" x 11" x 20" with a hinged door which can not be securely locked. Design and location to be approved by THE CITY OF LINCOLN.

6.37 BUMPERS

Type

Energy absorbing front and rear bumpers by Romeo Rim, or approved equal, shall be furnished.

6.38 TOWING EYES

Two (2) front towing eyes, concealed, shall be provided on the coach or approved equal.

6.39 WHEELCHAIR ACCESSIBILITY

Requirements

- a. Coach, front door entry area, aisle, tie-down area, and tie-downs shall be fully accessible to wheelchair passengers using standard electric wheelchairs in the 95th percentile of wheelchair size, length, width, height, tire size, and tire thickness. In any case, all conventional wheelchair designs shall be accommodated. Adequate provisions, including body modifications, as necessary, shall be made to enable wheelchair passengers to smoothly, quickly, and safely leave the passenger lift platform in a forward position, pass the front door entry area, and move down the aisle to the tie-down area, turn one-hundred eighty (180) degrees, and then move into the tie-down area.
- b. In addition to the above requirements, the following minimum distances, as shown on Floor Plan "A", shall be observed in order to ensure adequate accessibility.

Minimum unobstructed width of lift platform 29 inches

Minimum length of solid platform 45 inches

Minimum distance between stanchion at front
stepwell and inside front body of coach 42 inches

NOTE: This area shall be unobstructed by stanchions, grab rails, heating vents or other structures.

Minimum distance between wheelwells 42 inches

Minimum unobstructed aisle width 42 inches

Minimum distance between stanchion at front
stepwell and edge of dashboard facing front door 48 inches

Wheelchair Tie-Down Area

- a. Accommodations shall be provided for two (2) wheelchair passengers to be secured in a forward-facing position in the area between the front longitudinal seats and the modesty panels facing the first transverse seats. The length of this area shall be fifty-eight inches (58") or greater, and the width shall equal the length of the transverse seats and the modesty panels. Modesty panels shall be adequately reinforced to withstand impact of wheelchairs.
- b. Fold down longitudinal seats, equal in appearance, design, and quality to the front longitudinal seats, shall be provided in the tie-down areas for use by ambulatory passengers when no wheelchair passengers are on the coach. When the fold-down seats are in the retracted position, there shall be adequate room for wheelchair users to safely and quickly secure themselves with the tie-down equipment. Approximate dimensions of the seats shall be as follows:

Length:	51 inches
Width, when retracted:	9 inches
- c. Wheel securements shall accommodate the wide wheels now being used on some wheelchairs.
- d. A metal instruction plate attached to the bottom of the fold down longitudinal seats shall detail procedures for using the tie-down equipment.

Tie-Down Apparatus

- a. Two seat belts for securement of wheelchair passengers and their wheelchairs shall be provided. Both belts shall emanate from a position on the coach wall immediately to the side of the wheelchair user. Metal couplers for the seat belts shall be attached to the aisle end of the modesty panel behind the wheelchair. When the folding seats are not retracted, the seat belts shall attach to the bottom of the seat such that they are securely bound and not visible. One of the seat belts shall secure the wheelchair user around his lap; the other shall secure electric wheelchairs by locking through the wheels.
- b. Adequate sheathing, or other reinforcement, shall be used to position the lap belt and coupler ends so that wheelchair passengers, when in the tie-down securement position, may secure the lap belts without assistance and without bending, twisting, or leaning. Lap belts and couplers shall reach the hip level of the wheelchair user in such a way that no torso movement is necessary throughout the tie-down securement procedure.

6.40 ACCESS RAMP (LOW FLOOR)

An access ramp shall be provided at the entrance door. It shall be the Lift-U fold out, or approved equal. The ramp shall have a useable width of thirty-one inches (31") and meet all A.D.A. requirements. The ramp is to be operated by the driver from the seated position. In case of malfunction, the ramp shall be manually stowable. There will be a yellow light at rear of bus that activates when ramp is deployed.

6.41 ON-BOARD DIGITAL RECORDING SYSTEM

The On-board Digital Recording System shall be a Radio Engineering Ind, Digital Bus-Watch Recording System, or approved equal.

Basic System Operation and Requirements

Hardware:

- c. **Power Requirement:** The DVR shall operate from 12 to 24 VDC. It shall be self-regulating and internally protected from power surges and spikes.
- d. **Physical Attributes of DVR:** The DVR shall have a maximum 6" x 11.25" x 15.5" outer housing and weigh no more than 25 lbs.

- e. External DVR Material Construction: The DVR shall be constructed with a ruggedized outer housing that offers shock and vibration protection.
- f. External Camera Housing Material Construction: The external camera housing for the DVR system shall be constructed out of 1/4" cast aluminum.
- g. Video Inputs: The DVR shall record NTSC/RS170, 1 volt peak to peak video, from up to 8 sources.
- h. Inputs: The DVR inputs shall be NTSC/RS170 video format. The image capture rate of the system shall be user-selectable up to a maximum 8 frames per second. Playback shall not reduce the quality or resolution of the recorded scenes.
- i. Color or Black & White: The DVR shall record images in black & white, color, or both depending upon the camera source.
- j. Audio Input: The DVR shall record and playback a single channel of audio simultaneously with the recorded video.
- k. Compression: The DVR shall utilize wavelet hardware image compression.
- l. External Ports: The DVR shall be supplied with auxiliary ports for custom programming. These shall be a keypad port and a 10base T Ethernet port.
- m. Removable Drive: The DVR shall be a self-contained removable hard disk unit for storing digitized images and audio information. This configuration shall allow for easy removal of images for playback and archiving. The removable drive shall be portable and interchangeable.
- n. Dust Resistant Unit: The DVR shall filter dust from entry into the unit.
- o. Shock Resistant Mounting (all parts): The DVR shall be designed for heavy-duty automotive use, as well as be enclosed in a tamper-proof housing. The unit shall function within the normal operating characteristics of a coach or transit vehicle and shall be capable of withstanding a shock of 20 G's operational.
- p. Clock: The DVR shall have an on-board, real-time clock that operates independently of the main power supply. It shall be programmable to automatically adjust for daylight savings time.

- q. Lock: The DVR shall employ a key locking mechanism to secure unit contents and provide security to the removable unit.
- r. Impact Sensor: Each vehicle shall have an impact sensor mounted on the front of the vehicle in such a location that would be acknowledged with a front impact with another object.

Functionality

- a. Digital Video Recorder (DVR): The DVR can digitize, capture and record high-quality images. The images are then stored on the portable removable unit for review and playback at the Central Station. The DVR shall have, at a minimum, the following features and capabilities.
- b. Image Capture: The DVR shall store digitized video images.
- c. Image Capture Rate: The DVR shall capture images at a maximum of eight frames per second.
- d. Time: The DVR shall record the actual time while recording images. This information shall be tied to images during playback at the Central Station.
- e. Date: The DVR shall record the actual date while recording images. This information shall be tied to images during playback at the Central Station.
- f. Vehicle ID: The DVR shall record the programmable vehicle identification number while recording images. This information shall be tied to images during playback at the Central Station.
- g. Camera Source: The DVR shall record the programmable camera name while recording video. This information shall be tied to images during playback at the Central Station.
- h. File Format of Recorded Images: The recording software should store the images captured via the DVR in a proprietary file format that can only be viewed by Kalatel's software. It is not reasonably possible to view the images using any other viewing software. In addition, it is not readily practicable to alter the pixels with common graphics tools or programs while they remain in the proprietary file format.
- i. Recording Audio: The DVR shall have the ability to record single channel audio by adding a microphone.

- j. Initialization of Recording: The DVR shall be signaled to begin recording at the start-up of the engine run switch of the vehicle.
- k. End Recording: The system shall remain fully functional for a programmable period of time up to fifty minutes after the ignition has been turned off. This process shall be initiated by deactivating the engine run switch.
- l. Continuous Recording: The DVR shall be capable of continuous image recording at a user-defined recording rate.
- m. Loop Recording: The DVR shall record continuously onto the removable hard drive. The system recognizes when the available storage capacity for surveillance images has reached capacity and automatically begins to purge the oldest data in sequential fashion, making room for additional images without operator intervention. Images that are tagged due to the activation of the system's inputs are protected from automatic overwriting until the relevant images are manually deleted, or until all available space is filled with tagged images, at which time the system performs a "first-in, first-out" (FIFO) overwrite.
- n. Event Tagging: The DVR shall tag events when a system input, such as a panic button, is activated. Tagged events are stored on the hard drive. When retrieved, the tagged events shall be easily identifiable and will remain saved for a programmable period of time before being overwritten.
- o. Synchronized Audio and Image Playback: The Central Station software shall have the ability to playback image databases with single channel audio if this option has been previously configured on the DVR.
- p. System Software: System shall come with the latest version of the software capable of installation on a PC already dedicated to video surveillance.

Options

- a. Cellular Transmission System: The DVR shall be upgradeable to a video transmission system (DVRT). The transmission system shall utilize analog cellular technology. The Central Station shall support multiple simultaneous incoming video transmissions. The Central Station shall also have the ability to call out to the vehicle and request images at multiple resolution settings.

System Upgrade

- b. The system's hardware and software shall be capable of being upgraded in the field. The upgrade shall be easy and user friendly.

- c. The DVR may be programmed with time, date, and vehicle I.D., as well as camera input and capture rate via keypad programming or Ethernet port.

Additional DVR Units

2 additional DVR units shall be supplied under this contract to provide for spare replacement capabilities for the system.

Hardware Warranty

A 14-month hardware warranty, from the date of invoice, shall be provided.

Extended Maintenance

Extended maintenance shall be available through the seller of the DVR system.

6.42 MANUALS AND CATALOGS

- a. Six (6) copies each of complete parts books and maintenance manuals on coaches is furnished prior to delivery of the coaches which will permit the stocking of spare parts. All manuals where available will be provided on CD.
- b. Copies of parts lists for non standard units, assemblies or items used in construction of coach shall be furnished within fifteen (15) days after last coach is delivered on this proposal.
- c. Six (6) copies of drawings showing wiring schematics of auxiliary circuits, including air line diagrams and other necessary prints for the maintenance of these coaches are furnished. Wiring schematics where available will be provided on CD.

6.43 REPLACEMENT PARTS

A supply of replacement parts for the coaches specified is guaranteed for a period of fifteen (15) years by issuing revised pages or otherwise notifying THE CITY OF LINCOLN of new or superseding parts and maintenance practices.

6.44 DRAWINGS

During the approved equal period, bidder shall supply THE CITY OF LINCOLN with floor plans and diagrams depicting the locations, distances, and dimensions of all seats, modesty panels, grab rails, stanchions and driver's barrier. THE CITY OF LINCOLN reserves the right to make minor additions, alterations, or deletions.

6.45 PAINTING AND DECALS

Painting

THE CITY OF LINCOLN shall supply all paint schemes and color combinations at the pre production meeting as they are currently in development.

Any and all panels found to have rust corrosion shall be rejected, and a new rust-free panel shall be substituted.

Coach number location shall be finalized at the pre production meeting.

Decals

The following decals shall be provided. Preferred letter style is "HELVETICA MEDIUM, all upper case. THE CITY OF LINCOLN shall furnish logo specifications.

<u>MESSAGE</u>	<u>LOCATION</u>	<u>COLOR*</u>	<u>HEIGHT</u>
"No Smoking"	Interior above windshield	Black	2"
Coach number	Interior above windshield	White	2"
"Watch your step"	Front stepwell	Red (reflective)	2"
(Operating Instructions)	Above exit door	Black	Mfg. Std.
(Operating Instructions)	At emergency escapes	Black	Mfg. Std.

"For passenger safety, Federal
law prohibits operation of this bus

while anyone is standing forward

of the white line"	Interior above windshield	Black	Mfg. Std.
"No Smoking"	Front destination sign door	Black	Mfg. Std.
"On Off"	Side console on valve	Black	Mfg. Std.
"Diesel Fuel"	Inside fuel filler door	Black	Mfg. Std.
"Oil"	Inside oil filler door	Black	Mfg. Std.
"Caution 'Water' Hot"	Inside surge tank filler door	Mfg. Std.	Mfg. Std.
"Caution – Negative Ground	Inside battery compartment door	Mfg. Std.	Mfg. Std.
"Exit through back door"	Interior above windshield	Black	Mfg. Std.
"Wait for light"	Interior above rear door to right	Black	Mfg. Std.
"Push door to open"	2 locations-Interior on top panel of each door	Black	Mfg. Std.
"As a courtesy, please allow handicapped and elderly passengers to use these seats"	Above front longitudinal seats	Black	Mfg. Std.
International Handicapped Symbol (2)		Black	Mfg. Std.
Coach Number See Painting and Decals section on previous page	TBD at Pre production	Black on White, or White on Black	

*On approval of THE CITY OF LINCOLN, specified color may be changed in response to interior color scheme.